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THE MONTH

The eleventh meeting of the British Pharmaceutical Conference, held in London on August 6 and 7, has been so fully reported in our special (extra) issue of August 8, a copy of which we sent to all our subscribers, that but little reference to it is necessary in this number. The meeting was productive of pharmaceutical papers of an excellence much above the average. If the statements of the authors are borne out by other testimony, there is every probability that some important Pharmacopœia changes will date from this meeting. This, at least, may be predicted with regard to Mr. Williams' discovery of the power of glycerine to preserve hydrocyanic acid, and also in reference to Professor Tichborne's observations of the value of oleic acid in pharmaceutical products, such as liniments, &c.; perhaps also with regard to Mr. Gerrard's remarks on the formulæ for the official plasters. Mr. Groves, as President, in his opening address somewhat surprised many of his hearers by carefully avoiding scientific subjects and treating pharmacy exclusively in its political aspects. The address was spirited and interesting: there may be good reason, too, for varying the style of the presidential orations; but we confess that in our opinion the system of presenting an annual *résumé* of pharmaceutical science seems most in keeping with the objects of the Conference, and is more likely to be permanently useful. In point of numbers the meeting in London fell far short of the least sanguine anticipations. The excursion on the Saturday was much enjoyed, and was attended by 127 ladies and gentlemen.

Our special number, containing a full report of the meetings of the Conference up to Friday evening, was published early on Saturday morning, and copies accompanied the train which carried the members on the first stage of their excursion. This promptitude of publication required for its execution the staff and appliances of a daily paper—advantages which we are able to command whenever a fitting occasion presents itself.

The last meeting of the Pharmaceutical Council (August 5) was occupied largely with a discussion on the new arrangements of the School of Pharmacy, respecting which some comments will be found elsewhere. Although reported by Professor Redwood to be "satisfactory in every respect," except as regards the remuneration afforded to the Professors, there seemed to be several other aspects in which the scheme could be regarded. In fact, judging from the statements made, that Professor Redwood was 100*l.* a-year worse off than before, while Professor Bentley's damages were variously stated at from 75*l.* to 220*l.*, there seems good reason to question the hopefulness of the present system. Ultimately a committee was appointed to investigate the cause of this "satisfactory" condition. Of the prize awards, Mr. Arthur Pearson Luff took the Pereira medal, and the prize of books, also the silver medals for botany and Materia Medica, and for practical chemistry. Mr. W. H. Symons took the silver medal for chemistry and pharmacy. The Jacob Bell scholarships were awarded to Messrs. W. H. Vernon and George Green. There were five competitors. Messrs. Alex. Whyte and Thomas W. Nettleship were also credited with bronze medals, both for botanical exploits.

The final examinations under the old regulations took place last month, commencing on the 8th and ending on the 24th. Twelve days in all were occupied, and the following results were arrived at:—20 candidates presented themselves for the Major examination, and 15 passed; for the Minor, 303 started, but only 90 passed the winning post.

The Parliamentary session came to an end on the 7th inst. The results of the labours of our representatives are meagre indeed; half an hour's more drinking, as Mr. Childers remarked, about sums up the practical benefits conferred upon us. The Juries Bill has been sacrificed; the admittedly unjust condition of the law with regard to the Adulteration Act is to continue till next session without let or hindrance; analysts are at liberty to amuse themselves to any extent they please at the expense of shopkeepers until it may suit the convenience of MM. les Deputés to return from their sports; and Mr. Sclater-Booth's sheet-anchor seems to be the hope that magistrates will have sufficient moral courage to disregard the law altogether, and decide cases according to common sense.

Sir Thomas Chambers made a vigorous attack on the Civil Service Stores previous to the close of the session; he was well supported by his colleague, Mr. Forsyth, and was politely and very circumspectly replied to by Sir Stafford Northcote. As far as nothing can be substantial, the fireworks may be considered to have resulted satisfactorily.

The Committee appointed to consider the Irish Pharmacy question has issued its report. While desiring for Ireland exactly such a system as prevails in the other portions of the British Isles, the Committee strongly recommends the formation of an independent society. A few reasons for this objection to union are given, *pro formâ*; but it is impossible to avoid the impression that Mr. Errington's committee has been biassed in its conclusions by its Home Rule sympathies. Unless the temper of the British Parliament should change very considerably by next session, there will be but little chance of carrying a bill through the Houses whose object is to get in never so little a bit of the thin end of the wedge.

A deputation of wholesale and retail grocers waited upon Mr. Sclater-Booth, on the 15th ult., to ask for his influence in checking the prosecutions under the Adulteration Act, pending the amendment of the same. Mr. Sclater-Booth did not see how he could interfere, but he intimated that he would consult with the Home Secretary. He has since announced that it would be impossible to interfere officially with the law this session.

The price of quicksilver has again advanced, and now stands at the enormous figure of 22*l.* per bottle, with fair prospect of still higher quotations.

The European Congress of Pharmaceutists at St. Petersburg was to commence on the 13th inst., and continue until Tuesday next. A number of excursions have been organised, and *réunions* for the evenings. As we have previously announced, Messrs. Greenish and Sutton are the delegates of the Pharmaceutical Society of Great Britain at this Congress. All members of pharmaceutical societies will be admitted to the meetings, but delegates only will have the right of voting. The most important question for discussion is the formation of an International Pharmacopœia. We hope to publish a report of what may be of interest at this Congress in our next.

Readers will notice in our German correspondent's letter that we are authorised by the Council of the German Apotheker-Verein to extend to British pharmaceutists a cordial invitation to attend their session at Munich next month.

ON THE USE OF PHOSPHORUS IN MEDICINE.

By Huskisson Adrian, F.C.S.

First Paper.

The four preparations of phosphorus included in the Pharmacopœia Appendix imply the admission by the Medical Council of the fact that this element appears in medicine under two distinct aspects. In the first place we have in the Pharmacopœia itself the compounds of phosphoric acid, which may be said, speaking generally, to furnish the phosphatic matter required for the nourishment of the bones and blood; and now the Appendix authorises the use of two salts and two mixtures of phosphorus, all capable of further oxidation, and acting powerfully upon the nervous system. How they act cannot at present be clearly laid down; but probably the progress of animal chemistry will hereafter supply the links now wanting to connect the phosphorus taken as medicine with the protagon of the brain, and then with the phosphates which are finally thrown off by the body.

Meanwhile, a comparison of the amount of phosphorus contained in the official doses of both old and new preparations seems to show that the activity of this element is in direct proportion to its capability of further oxidation. The maximum dose of

Calcis Phosphas	contains	4·000	grains of	phosphorus.
Calcis Hypophosphis	,,	3·647	,,	,,
Sodæ Phosphas	,,	37·884	,,	,,
Sodæ Hypophosphis	,,	3·369	,,	,,
Oleum Phosphoratum	,,	·062	,,	,,
Pilula Phosphori	,,	·065	,,	,,

A few chemical notes respecting the new preparations will (I hope) prove useful to those pharmacists who have not had the opportunity of investigating the properties of phosphorus for themselves. Many solvents have been suggested for phosphorus, but none of them present so few objections as that adopted in the Appendix. Ether and bisulphide of carbon are so volatile that a solution of phosphorus in either of them constantly becomes more concentrated—a serious matter with a medicine of which the usual dose is one-thirtieth of a grain. Alcohol takes up very little, even after boiling. Creosote is mentioned in the "Annals of Chemistry" as a solvent, but I have kept phosphorus immersed in Morson's preparation for a fortnight without succeeding in obtaining a solution. I am therefore inclined to agree with Dr. Redwood that no efficient substitute for the *Oleum Phosphoratum* has yet been described. Even in this the Pharmacopœia admits the possibility of slight oxidation (which my experiments lead me to connect with decomposition of the olein), but this is much less frequent in the almond oil than in the animal oils by which it has been lately proposed to replace it. One may remark, however, that it is useless to hope for satisfactory results in this compound unless good oil is employed, and much time, care, and patience is expended.

Dr. Redwood has published a form for administering the *Oleum Phosphoratum* as an emulsion, and it is also given in mucilage flavoured with aromatic wine. Messrs. Kirby enclose enough of the oil to represent one-sixtieth of a grain of phosphorus in a neat little capsule, and this mode of administration seems to be very popular. My only objection to this preparation, which keeps very well, is that the size of the capsules is greater than some persons can swallow. Any discussion of the therapeutic effects of phosphorus would be out of place here; but I may mention that these pilules are taken by students preparing for examination, and are stated to have a remarkably stimulating effect upon the intellectual faculties.

But any liquid preparation of phosphorus must of necessity begin to act as soon as it reaches the stomach; and for the use of those physicians who desired a slower action, or an action in the intestines, a phosphorus pill had to be devised. Here the compilers of the Appendix do not seem to have been so successful, the general opinion of pharmacists being adverse to their formula. The chief objections raised against it are its insolubility and the practical difficulties attending the mixture of the ingredients. Besides these, it may be urged that the administration with the phosphorus of nearly one hundred times the quantity of a mixture of variable chemical composition, consisting partially of benzoic acid, may possibly cause the pills not to produce the desired effect. In defence of the formula, it is merely stated that phosphorus can only be safely manipulated under water, which is of less specific gravity than melted balsam of tolu. It is a well-known chemical fact, however, that the oxidation of phosphorus is checked by the presence in the atmosphere of a small proportion of the vapour of certain inflammable bodies (ether, turpentine, and essential oils), and some recent experiments have shown me that by the aid of these substances phosphorus may be safely made into pills without having resort to the P.B. process. This is the mode of procedure—Solid paraffin is worked up into a stiff paste with ether in a mortar; any required quantity of phosphorus is added, and well mixed with the paraffin. Should the phosphorus show signs of oxidation during the process, a few drops more ether will check it at once. The addition of a little powdered vegetable charcoal materially assists the minute division of the phosphorus, and also renders the pill mass firmer. Finally, heat the mass to about 80° F., by placing the mortar in warm water, roll into pills, and varnish as usual. If the pills be not made for immediate use, let them be kept in a well-corked bottle, in which is placed a piece of cotton-wool, moistened with essence of lemon. Soap or stearin may be substituted for the paraffin if desired, but the latter presents several advantages. Its melting point is low, and nearly approaches that of phosphorus; it contains no oxygen, being a mixture of several bodies having the formula $C_nH_{2(n+1)}$; and in contact with the fluids of the body it is unlikely to form any dangerously active compound.

For the charcoal may be substituted any substance not likely to oxidise the phosphorus; phosphate of lime, for example. Sugar (which was suggested in the course of the discussion on the "Pharmacopœia Appendix") is specially unsuitable.

In a future paper I hope to offer some observations on the hypophosphites and other salts of phosphorus.

Corrections.—In consequence of the speed with which the extra issue of The Chemist and Druggist had to be sent to the press a few reporter's errors passed uncorrected. The following are among the most important:—On page 268, in discussing Professor Flückiger's paper on Myristicin, the first paragraph ought to read thus: "Mr. Siebold observed that he should have expected myristicate of barium to leave, upon incineration, either oxide of barium or a mixture of oxide and carbonate, but not the pure carbonate. He said that whenever he incinerated a barium salt containing an organic acid (the oxalate excepted), he found the residue to be the oxide, or a mixture of the oxide and some carbonate. The liberated carbon would greatly facilitate the decomposition of the carbonate, so as to make it impossible to obtain pure carbonate of calcium as a residue." Mr. Siebold was again incorrectly reported on page 270. Quoting Küchenmeister, he said, "that authority maintained to the present day the high efficacy of *cortex granati radicis*, and his experiments showed the vast amount of success which attended its administration. However, male fern, too, was a most valuable and reliable tape-worm remedy; but the Pharmacopœia dose of the oil (15-30 min.) was much too small, one or two fluid drachms being required in many cases to produce a successful result. Male fern deteriorated much by keeping; the fresher it was the better."

GERMAN PHARMACEUTICAL AFFAIRS.

(FROM OUR OWN CORRESPONDENT.)

BERLIN, July 31, 1874.

AT last the Imperial Chancellery has broken the silence respecting pharmaceutical affairs in which it has so long enveloped itself. During the past month an announcement has been issued in the official journals intimating that the General Council is about to occupy itself with a consideration of the question raised in this "Apotheke" discussion, that is, whether the present system of privileged concessions shall be maintained, or whether the right of freely establishing themselves shall be conceded to all approved apothekers. The communication adds that the subject has already received attention so far back as 1868, and is governed generally in matters of legislation by the Trade Office, but that an Act is necessary to bring the affair to a conclusion. The necessity for uniform legislation in all the provinces of the Empire is generally acknowledged, and as Parliament has frequently evinced a desire to prepare a scheme to settle this question, it would seem to be one which is ripe for legislation. Lively discussions, continues the official article, have been in progress as to the merits and demerits of the "unlimited" system which prevails in Alsace-Lorraine on the one hand, and the general German plan of privileged concessions, and, therefore, before drawing up a scheme of legislation it is thought advisable to appoint a commission of inquiry, comprising representatives of all the circles interested. The Imperial Chancellery, therefore, requests the General Council to form such a commission, the members of which are to be official medical officers, physicians, and apothekers. A long programme of subsidiary questions then follows, comprising nineteen different subjects for discussion, besides the leading question which the Commission is appointed to decide.

I hear on reliable authority that several of the provincial medical colleges have declared themselves in favour of free trade; and especially, it is said, the Westphalian College, which has already won a reputation as the breeding place of various of the Government measures which do not tend to make life agreeable to the pharmacist, has prepared its scheme.

This Commission, of course, it will be understood, is only an advising body, and is not entrusted with the final duty of legislation, which will be the prerogative of Parliament. The President of the Commission is the minister Jacobi, the present head of the Department of Commerce. This gentleman was originally a lawyer, and is still far enough removed from all bonds of connection with the subject which he has to investigate. Until lately he has been the first Councillor of the States Department.

There is a strong opinion that this Commission will really lead to legislation, and a certain sanguine First President of a province fixes next year for the commencement of free trade. Teutonic legislation, however, does not usually run so fast as this.

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At a recent scientific meeting in Berlin, English sanitary arrangements were somewhat fully explained and discussed. The conclusion arrived at was that England knows best how to prevent disease, while Germany takes the lead in curing it. A combination of these abilities would be advantageous for both nations.

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The next meeting of the German Apotheker-Verein will be held at Munich from September 9 to September 12. The Council of that association has requested "Your Own Correspondent" formally to invite any English pharmaceutists who may be travelling in the neighbourhood at that time to attend the conferences. Such visitors would be sincerely welcomed, and they would find in Munich abundant means of communication in their own language. The first public session will occur on Thursday, September 10, in the large hall of the museum. Proposals to read papers will be thankfully received by Director Dr. Schacht, Berlin.

Pharmaceutical Notes from Foreign Sources.

TWO NEW PROCESSES FOR THE PREPARATION OF SULPHOVINATE OF SODIUM.

BY M. DUBOIS.*

THE first of these processes is based on the solubility of the sulphovinate and insolubility of the sulphate of sodium in alcohol.

The author first prepares sulphovinic acid by heating together in a proportionately large flask equal volumes of alcohol and sulphuric acid; the product is a mixture of the latter acid with the sulphovinic. He then adds little by little a concentrated solution of caustic soda in alcohol to the mixture. Whilst this is being done the temperature must be kept down by a freezing mixture, otherwise some of the sulphovinic acid would split up into ether and sulphuric acid. The sulphate of sodium which is produced separates from solution, and is removed by filtration. The bulk of the alcohol is recovered from the filtrate by distillation, and the residue evaporated in a water bath to the formation of a pellicle, and allowed to crystallise. The crystals are free from sodium sulphate, and very white.

In working the second process, M. Dubois dilutes the impure sulphovinic acid with alcohol of 96 degrees. This done, he at once saturates with pure powdered carbonate of sodium. If too much sodium salt is added it does not matter; being insoluble in alcohol, it is filtered away along with the sulphate. The filtrate is then treated as in the first process.

This process is not only facile, but economical, and, since no barium is used, the product is not contaminated with this poisonous base.

ALBUMEN IN URINE.

M. ESBACH † proposes picric acid as an agent for the detection of albumen in urine. A few grammes of a hot concentrated solution of picric acid are poured into a test tube, and into this the urine to be analysed is allowed to fall drop by drop. The albumen immediately appears in milky clouds, which show well in the fine clear yellow of the picric acid. If the acid be poured into the urine, the same result does not follow, for, says the author, the excess of acid redissolves the precipitate as soon as it is formed.‡ M. Esbach recommends the addition of 50 c.c. of acetic acid to 950 c.c. of a saturated solution of picric acid, so that part of the latter may not be neutralised if the urine be alkaline.

THE ESTIMATION OF CANTHARIDES FOR THE PREPARATION OF PLASTER.

DR. GODEFFROY § employs the recognised process. Powdered cantharides are exhausted by chloroform, the latter recovered by distillation below 70° C., the residue treated with carbon bisulphide, and what remains undissolved (cantharidine) is collected on a filter and weighed. The yield is 0·5 per cent.—a figure somewhat higher than that usually found in the books. According to the Codex, 2 grammes of cantharidine should be used with 1 kilogramme of adhesive plaster.

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* *Journ. de Pharmacie d'Anvers*, June, 1874, from *Repertoire de Pharmacie.*

† *Journ. de Pharmacie d'Anvers*, June, 1874, p. 248, from *Journ. des Connaissances Medicales.*

‡ This cannot be the cause of the non-appearance of the milky clouds, for excess of acid is present only by the *modus operandi* first given. We think the failure of the test in the case supposed is due to the complete admixture of the two liquids affording no points of contrast.—Translator.

§ *Journ. de Pharmacie d'Anvers*, June, 1874, p. 249, from *Le Journ. de Pharmacol.*

A WATERPROOF COMPOSITION (PATENTED).*

CASEIN is dissolved in solution of ammonia; the solution is mixed with varnish, oil, and glycerine, and the mixture heated. After cooling bichromate of potassium is added and the composition is ready to be applied by means of a pencil to the material to be treated, which is afterwards exposed to the air and light.

A NEW CEMENT.

IN the *Repertoire de Pharmacie* M. Lallemand gives directions for making a new cement, which may be used for stopping the outlets of melting furnaces, lining water tanks, fixing stone in iron, &c.

Filings of cast or wrought iron, 2 parts.
Chalk, 10 parts.

These are mixed as intimately as possible, made into a paste with water containing one in a thousand of sal ammoniac, and then applied. It hardens slowly, adheres to all hard bodies, and moisture does not hinder it from setting.

PORTABLE INK.

Le Médicin de la Famille reports that at a recent meeting of the Polytechnic Association M. Boettger exhibited a new kind of ink, which is convenient for travellers. It is prepared by saturating white bibulous paper with aniline black, and then pressing several sheets together so as to form a compact block. Other aniline colours may be employed for making red, violet, green, and other inks. A piece of the prepared paper two or three centimetres square will furnish sufficient ink for a long correspondence by simply steeping it in a little water.

TO REMOVE STAINS FROM CLOTHING.

THE same journal says:—"Benzine or essence of petroleum is commonly used for removing grease spots; but these liquids present the inconvenience of leaving, in most cases, a brownish aureola. To avoid this it is necessary, whilst the fabric is still saturated and immediately the stain has disappeared, to sprinkle gypsum or lycopodium over the whole of the moistened surface. When dry, the powder is brushed away. Stains of oil-paint may be removed with bisulphide of carbon; many by means of spirit of turpentine; if dry and old, with chloroform. For these last, as well as for tar spots, the best way is to cover them with olive oil or butter. When the paint is softened, the whole may be removed by treatment, first, with spirit of turpentine, then with benzine."

TO PRESERVE FLOWERS.

FLOWERS may be made to retain their freshness for a fortnight or longer by placing the freshly cut stalks in water containing 0·5 per cent. of sal ammoniac.

A NEW TEST FOR IODATES.

M. POLACCI† takes advantage of the power of phosphorus to liberate iodine from an aqueous solution of iodate of potassium, even when the latter is very dilute, to ascertain the presence of iodates in aqueous solution. He believes the action to be as follows:—The phosphorus first gives with iodates phosphoric acid and iodide of potassium; the phosphoric acid then acts on the iodide and non-reduced iodate, forming phosphate of potassium, iodic acid, and hydriodic acid; the two latter by reciprocal action yield water and iodine. The *modus operandi* recommended is to add a particle of phosphorus to the liquid to be tested contained in a glass tube. The reduction of the iodate commences at once, the liquid gradually becoming a brownish yellow colour. On standing, iodine is deposited in visible camellæ on the surface of the phosphorus. To demonstrate further the presence of iodine, starch or carbon bisulphide may be used *secundum artem*. M. Polacci has noticed that, contrary to what one would expect, amorphous phosphorus has a much more energetic action on iodates than ordinary phosphorus; with the former the reduction of the iodate is so rapid as to set the liquid in brisk agitation. Iodate of potassium is on the other hand an extremely delicate test for phosphorus.

VIDAL'S EBULLIOSCOPE.

IN a paper presented to the Academy of Sciences‡ by M. E. Malligaud and Mdlle. E. Brossard-Vidal, it is stated that sugar, resins, citric and tartaric acids do not alter the boiling point of alcohol in which they may be dissolved. This observation was made by the late M. l'Abbé Brossard-Vidal, and suggested to him the possibility of ascertaining the alcoholic strength of wines and spirituous liquids generally by determination of the boiling point of mixtures of alcohol and water in different proportions. To this end he devised an instrument, which he called the *ebullioscope*. This instrument, as improved by MM. Jacquelain and Malligaud, comprises—1, a lamp which burns at a uniform rate; 2, a small chimney arranged above the flame, to render the combustion invariable and to determine the heated area; 3, a small conical vessel, fitted with a screw-disc on the top pierced with two holes, through one of which passes an elbowed thermometer, whilst to the other is screwed a condenser formed of two concentric cylinders. The vessel, towards its lower part, receives at points diametrically opposed the two extremities of a small cylinder bent into a circle, and at the same time inflected spirally. This tube, which is filled with the same liquid as the vessel, traverses the ease of the chimney, and consequently receives on a small surface the whole of the heat from the flame; the gradually heated liquid circulates upwards in the cylinder, and, entering the conical vessel, the whole of the vapour formed is condensed, even whilst the entire body of the liquid is in a state of ebullition. At this moment the mercurial column of the thermometer becomes stationary, and indicates the same point for about ten minutes; 4, a movable horizontal scale attached to the cover of the vessel, which may be arranged for different barometric pressures, and is graduated for alcoholic degrees from 0° to 25° C.

Several experiments are detailed showing the great uniformity of the results obtained by several of these instruments when charged with the same sample of alcoholic liquid. The authors say that this instrument readily furnishes precise and always comparable indications of the richness of alcoholic liquids, such as dry wines or cordials, liqueurs, varnishes, spirituous solutions and pure alcohol, with a small amount of material (70 c.c.) and in a short time (nine minutes).

THE DEBATE ON CIVIL SERVICE TRADING.

ON July 28, after several postponements, Sir THOMAS CHAMBERS brought forward his motion in respect to Civil Service Trading.

At this late period of the session (he said), instead of proposing a resolution upon the subject, I will content myself with simply calling the attention of the House to the matter in question. The House is familiar with this subject, which has attracted a great deal of interest amongst many classes of the community. As to the arguments which have been used against me, on the ground of opposing co-operation, they are quite beside the mark, as there is nothing in the notice of motion, or in any words that I have made use of, which can be considered as indicating that I have a single word to say against co-operation. The great grievance which is felt amongst a large class of the trading community is that under the name of co-operative stores and supply associations there has been a large and regular system of trading organised, and this system is not distinguished, practically speaking, from the ordinary commerce carried on by limited companies. Considering these circumstances, it is thought desirable that the attention of the House should be directed to the fact that persons connected with the Government as employés—the Civil Servants of the Crown—are engaged largely in these commercial undertakings. Particulars of the Civil Service Supply Association were then given, and it was stated that the total purchases at this establishment alone during the half-year ending February 28, 1874, were 773,364*l.*; the total sales were 819,428*l.*; and the net profits were 14,088*l.* This, it should be remembered, is only one establishment, and it is certainly conducted on a scale of great magnitude. The first thing which would naturally strike anyone in reference to these societies is that if they were conducted on a strictly co-operative basis they would not have saved this large profit—a profit which was proper to the tradesmen acting as distributors. They send out the goods free to their own shareholders; but they have another class of customers, called ticket-holders, from whom they effect a saving by making them pay for the delivery of their own goods. Surely, when we consider that these large profits are made, it looks much more like ordinary trading than co-operating for the supply to certain individuals of the necessities of life. Another matter which calls for consideration is the mode in which the profits of these associations are made. They do not make them in the same way as an ordinary tradesman or an ordinary limited liability company would make them, viz., by selling at a profit which would cover the cost of distribution, but they sell some things at a loss, and others at very large profit. That is another feature entirely opposed to the principle of mere co-operation for the purpose of supplying their own wants, and it is utterly inconsistent with the principles upon which ordinary commerce is carried on. How are these Civil Service co-operative societies constituted? They are constituted primarily of members of the Civil Service, and in the Civil Service Supply Association Report I find that seven gentlemen retired from the committee in consequence of being dissatisfied with certain recent arrangements, and their places were filled by seven gentlemen connected with different departments of the Civil Service. That society consists of 4,500 members, and if these members merely combined for the purpose of supplying their own and their families' wants, the trade would not complain; but in addition to these 4,500 members there are 15,000 persons who are called ticket-holders, and who pay 5*s.* per annum, or 2*l.* for life, for the privilege of buying goods at the stores. It may be argued that there is no harm in that; but all I can say is that the system ceases to be co-operation in any sense of the word, and becomes trading pure and simple. This association invites the custom of the outside public, and by rule 12 the number of outsiders to be admitted is limited to 15,000, but in point of fact there are 18,500 ticket-holders. At the last annual meeting it was moved that the number be increased to 30,000, and I see no reason, on the same principle, why they should not have proposed to increase them to 50,000, or more. Such trading, however, is not co-operation, and these societies are merely trading companies, and the tradesmen naturally object to such associations being established by the Civil Servants of the Crown. They ought to be called limited trading companies, and certainly not co-operative societies. Of course, their excuse is that they wish merely to supply their own wants under the co-operative system, and that they could not do this unless they got a larger trade; therefore, that it became necessary to supply the outside public, so that they may carry on their business and supply themselves at a cheap rate. Still, that principle is trading, as distinguished from co-operation, and it is nothing but a pretext to call these associations co-operative. Reference was then made to other existing and proposed societies emanating from the Civil Service. He (Sir T. Chambers) submitted that there was really no distinction between these associations and trading societies, and they should be called by the name most suitable to them. It would be for the Chancellor of the Exchequer to say whether this kind of employment was consistent with the true construction of the rules which bind all Civil Servants. It was certainly contrary to the letter and spirit of their engagement. By a Treasury minute of 1849 it was laid down that the public was entitled to the whole time of the Civil Servants, and they were not allowed to be engaged in anything that required their attendance during office hours, or to be engaged in any mercantile business. It might well happen that the directors of such societies, being members of the Civil Service, might buy colonial and foreign produce advantageously, availing themselves of information which had not been fully communicated to the public. Persons engaged in legitimate trading might reasonably be jealous of such transactions, and he might state that complaints were made to him of the way in which the canteen of Woolwich had been used. According to the 23rd and 24th Articles of the Queen's Regulations, it stated that "it is desirable that the troops should be supplied from local sources, thus enabling provincial tradesmen and others to derive advantage from their presence." But what was the case at Woolwich? He would read from a document which was sent to him on behalf of the local tradesmen. It was as follows:—"Whereas, traders at Woolwich and elsewhere complain that soldiers are forbidden to deal, or at least discouraged from dealing, elsewhere than at the canteen, although in many cases they may find it advantageous to do so. That the scope of the canteen operations now embraces the manufacture of gas, making shoes, keeping cows, poultry, &c., which they think was hardly contemplated; that they supply not merely the military, but private families also, directly or indirectly; that canteen servants in uniform call daily upon private persons for orders and the delivery of goods; that some, if not all, retail sundry articles at or below cost price, making some few, such as beer (principally consumed by the rank and file, and the profit estimated to be 2,000*l.* a year in the Artillery canteen) bear a sufficient profit to cover all expenses, in contravention of the Queen's Regulations; and, as a consequence, so far from benefiting, many of the tradesmen find a diminution of their takings to the extent of 20*l.* per week, being unable to compete with the canteen under the aforesaid system of arranging profits, and having heavy rents and servants to pay, these being, in the case of the canteen, at the expense of the public." The document then went on to say that "the Marine Canteen, Woolwich, pays a nominal rent of 10*s.* per annum. The average takings are 250*l.* per week, whilst the average ration money available for the whole of the Marines stationed there is only 160*l.*" They asked, "Whence is the difference derived, unless from private persons?—in fact, cases of soliciting orders from and delivering goods to such can be proved if necessary." That was a state of things which was very improper, and created a great deal of dissatisfaction among the tradesmen in a place like Woolwich. To return to the large associations, he might say that they supplied not only the ordinary necessaries of life, but such luxuries as were required in croquet. Among other things they made up prescriptions of drugs, and the effect of this was very serious indeed, and contrary to the law. It was generally understood that a chemist had a profit on the medicines he dispensed of 11½*d.* in the 1*s.*, and perhaps this was necessary to keep up a properly qualified set of chemists. It was a dangerous practice to introduce, if ignorant persons were to be allowed to dispense drugs, and it would be a great public calamity if such facilities were to be given to such people. If this was mere ordinary competition he would not mind, but it was not that. If this trading were carried on it would depreciate the value of many shops which had been built expressly for chemists' shops. In the case of a street accident the person was generally taken into a chemist's shop, where he was attended to; but if those co-operative societies were allowed to go on underselling, their trade would become so bad that chemists would be obliged to give up their business. In conclusion the hon. member trusted that some assurance would be given on the part of the Government which would tend to mitigate the anxiety and jealousy at present felt by a large tax-paying class towards members of the Civil Service.

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* *Pharm. Zeitung*, June 17, 1874, p. 365.

† *Journ. de Pharm. et de Chimie*, Août, 1874, p. 104, from *Gazetta Chimica Italiana*, t. 111.

‡ *Journ. de Pharm. et de Chimie*, Août, 1874, p. 107.

Mr. FORSYTH expressed his general concurrence in the remarks made by his hon. and learned colleague. He wished the House to understand this—that those who complained of these co-operative associations did not object to the members of the Civil Service combining together to buy wholesale and sell retail among themselves. What he did object to was Civil Servants becoming shopkeepers on a gigantic scale, and selling their goods to the outside public. It was perfectly well known, and his hon. friend had shown, that these trading associations were not confined to members of the Civil Service. In one case alone they had 18,500 ticket-holders to whom they sold retail, and thus made profits and divided dividends; and in this particular case the accumulated profits amounted to 90,000*l.* What he and the tradesmen said was this:—"These Civil Servants are the paid servants of the State; they are paid their salaries out of the taxes, to which the shopkeepers contribute; and the shopkeepers think that it is rather unfair to establish a system of competition with shopkeepers when the latter are taxed to pay these servants the salaries they receive." Another reason was that the Civil Servants ought to be occupied in the Civil Service. One of two things seemed clear—either they were paid too highly, or they had not enough to do.

Mr. MACDONALD hoped that the House would not countenance this attempt to put a stop to such institutions. He knew something about co-operation, and explained to the House what was done at Rochdale. Instead of the House of Commons interfering for the purpose of stopping these institutions, which were the strongest marks of the intelligence and sobriety of the people, it ought to give them its support and countenance. They would thus give facilities for promoting providence and thrift, and keep the people further from the workhouse and nearer to self-supporting independence.

The CHANCELLOR of the EXCHEQUER said: The hon. and learned gentleman has called attention to this matter in a tone and manner which certainly demands the attention of everyone, whatever his feelings on the subject may be. He has made a very temperate statement of the case, and has brought the subject forward in such a way as certainly to recommend it to the attention of hon. members. At the same time, I feel bound to point out that the question is one of very great difficulty, and not by any means free from doubt. I would say, in the first instance, with regard to one of the last points which the hon. gentleman mentioned—I mean that particular question of the sale of drugs—as he spoke of that he suggested to me a consideration which applies to perhaps a great deal of the hon. and learned gentleman's argument. Undoubtedly, if the effect of selling drugs at stores of this kind is such as in any way to endanger the public interests in respect of matters which are of great importance, it must be observed that even if the Government were to take strong measures to put down those particular co-operative stores, or whatever else they may be called, that are conducted by Civil Servants, there can be little doubt that the system which has been initiated, and which has proved financially and in other respects a great success, would be taken up and worked by others; and the difficulties of which the hon. and learned gentleman gives us an illustration in the case of the drugs would be difficulties which would present themselves under any system of co-operation. With regard to the general question of the carrying on of this system by the Civil Servants of the Crown, and the question whether the Government ought to interfere in order to prevent, or to limit, or to regulate in any way, I think that the House will perceive that there are two questions of a very different kind which arise therefrom. The first is the question whether the tradesmen of the metropolis have a right to complain of competition to which they are subjected by this system. According to the accounts which I have received of the origin of this movement, it was something of this kind: a number of the public servants employed in the Post Office endeavoured to provide for themselves in a manner which the hon. and learned gentleman said was perfectly legitimate. They found that when they went to deal with their tradesmen they were exposed to many disadvantages. They had in the first place some difficulty in insuring that they got the best quality of the article. They were charged high prices—high prices which covered not only the legitimate profit of traders who supplied them as ready-money customers, but also to make up for bad debts, which, under the system of credit, were made by those traders with some of their other customers. And accordingly, these gentlemen, who were living upon narrow salaries, and struggling hard to maintain themselves, found themselves placed in a position of considerable difficulty. They found that they could protect themselves from many evils by introducing a system of co-operation, not the least of which was this, that the system of co-operation was founded on the principle of ready-money payments; and there is no doubt that it was a very great advantage to the great body of the public servants, and through them to the advantage of the public service itself and the interest of the country, that the servants of the Crown, and especially those who are not paid large salaries, should be able to supply themselves upon moderate terms, and upon a system which prevented their running into debt. But, as I am informed, when they had undertaken this system, and when they had begun to supply themselves wholesale, they were met by a counter-movement on the part of the retail tradesmen, who complained of this, which is now admitted to be a perfectly legitimate business. These retail tradesmen endeavoured to crush the movement by inducing manufacturers and wholesale traders to refuse to trade with these gentlemen. That was an interference of a very delicate character, and the business done by the association was not sufficient to induce the wholesale dealers to neglect the remonstrances of the tradesmen. The consequence was, that the originators of this movement extended the system, and brought in a number of outside customers. Looking at it as a question of competition, I confess that I cannot say, "you may go up to this point, and beyond that point you must not go," because, if you complain that they are entering into competition with the tradesmen with certain advantages on their part, when they leave off co-operation you must admit that they are also entering into competition with tradesmen with certain advantages over them. But then, there is the other side of the question, which was touched upon by the hon. and learned gentleman, and one that raises considerations of extreme difficulty—How far ought public servants to be allowed or sanctioned by the Government to undertake work of a remunerative character outside and beyond the business to which they are attached? I confess that that is a matter which has often caused me very considerable anxiety; and it is a matter to which I do not profess to have come to a positive and fair conclusion. On the one hand, it may be very truly said that you have engaged those services—you pay for that public time; their time ought to be given to you; and it is unfair that they should be employed to give their services to the public, and yet carry on business for their own profit. Well, if you lay down that doctrine you must apply it not only to this one class of Civil Service trading, but you must apply it to all those employed as civil servants who are engaged in any kind of work by which they are enabled to make very considerable profits. That is one view of the question. Then, on the other hand, this view may be taken, that the employé makes a bargain with his employer. He contracts to give a certain number of hours of his time, and as long as he gives those hours of his time, as long as he does the work that he undertakes, you have no right to go beyond your bargain and inquire how he employs the rest of his time. And it may be said that if you find a man who is willing and able to give you six hours of fair work per day, and he does it at a moderate price, you ought to look at it as an advantage ,that he is enabled to keep himself in proper condition to take the employment at that moderate salary which he is enabled to do by getting money from other sources. Between the two views of the question, it is very difficult indeed to decide; and I am anxious for the Government not to come to any positive conclusion, because the whole question of the organisation of the Civil Service is at this moment under review, and the commission is sitting, which we hope will give its report, and give us some view of the question which will be of considerable importance in its bearing on this subject. Therefore, all I can at present say is that I admit that there is a good deal in the argument which the hon. and learned gentleman has brought forward, founded on the objection that the Civil Servants who are competing with tradesmen are giving to that competition time which belongs to the public and to the tradesmen as part of the public who are tax-payers. I admit that there is something in that. On the other hand, I say that there is manifest advantage in this system to the whole country in many respects—that it is an advantage that your Civil Servants should have the means of supplying themselves upon reasonable terms with those articles which they require; that is an advantage to themselves and the tax-payers, because it enables you to get men at salaries which you would not be able to secure if they could not get the necessaries of life as they do. Therefore, I hope the hon. and learned gentleman will be satisfied with having called attention to the subject, and I can promise him that steps shall be taken to take the sense of the department as to the impropriety of taking office time for private work, but I cannot go further into the matter.

The subject then dropped.

Contemporary Opinion.

CIVIL SERVICE TRADING.

The *Times* cannot conceive that any Government will venture to close the Civil Service Stores on the ground that the directors do not give, as they are bound, their whole service to the State. But the fact that the two representatives of one of the very largest and wealthiest constituencies of England should unite to try the disposition of Government and Parliament on the subject of putting hindrances in the way of co-operation should not pass without remark. The Co-operative Stores have worked a real revolution—one which will probably confer more practical benefits on the English middle class than many a movement which has been called by that name. The Civil Service Stores have brought other stores into existence, and the movement has affected the whole retail trade of London. Everywhere tradesmen are offering better goods, at more reasonable prices, in return for ready money, whereas formerly the customer who went cash in hand was obliged to submit, with respect to quality and price, to arrangements based on long credit, and the anticipation of a large percentage of loss. It is this evident advantage to the public which the two members for Marylebone assail in obedience to their constituents. Their function was evidently imposed upon them, and they will probably be the first to admit in their hearts that their arguments verged on imbecility. The notion that the Government should shut up the Civil Service Stores because they are managed by persons to whose whole time the Government has a right can hardly be treated seriously; and even if the shopkeepers could accomplish it, the event would only prove that the movement is now wholly independent of the Civil Servants who began it. The result of closing the Civil Service Stores would be that those opened in imitation of them would increase immediately in extent and business, and that new ones would rise by their side. In the end, the shopkeepers would be more than ever convinced that co-operation must be met by new and better modes of business, and not by feeble invocations of Parliament.

The *Globe* points out that, either intentionally or unintentionally, the *Times* confuses the whole issue recently raised in the House of Commons by both members for Marylebone. Both Sir Thomas Chambers and Mr. Forsyth expressly repudiated the opposition to co-operation as such which the *Times* chooses to attribute to them. The question, says the *Globe*, is this:—Is it fair that taxpaying tradesmen should be subjected to injurious competition at the hands of gentlemen who, drawing good incomes from the public revenue, are in a position to trade for smaller profits than those who have to make a living out of their dealings with the public? There can be no question that some co-operative stores have degenerated into mere shops, in all respects similar to ordinary retail trading concerns. Out of a gross number of 20,000 customers dealing with the Civil Service Supply Association, not quite one quarter are members of the service, the remainder belonging to the general public. Since part of the profit is ultimately divided among shareholders, to the exclusion of the public composing the vast majority of customers, the Civil Service Supply Association is to all intents a gigantic shop carried on in the interests of a limited liability company, with a direct object in making profit out of the public. But owing to the fact that its managers are in receipt of handsome salaries from the public revenue—which, be it observed, is largely made up from taxes on retail traders—the association is necessarily carried on at a relatively less cost than would be possible in the case of ordinary shops. The retail trader must entirely support himself and his family out of profits, but the amateurs who manage Civil Service Stores can afford to be content with trifling additions to their already comfortable incomes. In this way tradesmen find themselves exposed to what they rightly consider unfair competition at the hands of gentlemen whom they help to support. Under these circumstances, it is only natural that they should clamour to have those rules put in force which decided, in 1849, that the public are entitled to the whole time of Civil Servants, who at the same time were forbidden accepting offices requiring their attendance during office hours. No doubt the question is beset with difficulties, since it is hard to draw the line between fair and unfair co-operative trading on the part of Civil Servants. But since the question will have to be seriously considered before long, it is to be hoped the commission now sitting to report upon the re-organisation of the Civil Service will give the matter their gravest attention. If gentlemen serving the Crown have more time on their hands than they can find employment for, their numbers might gradually be reduced until an equilibrium was reached between the amount of work to be performed and the requisite quantity of available labour. Clearly the nation should not be called upon to assist in making provision for the managers of retail trading concerns, carried on in private interests with a view of making profit. This being what the present system amounts to, it is against it, and not against fair co-operation, that the tradesmen of the metropolis so bitterly complain.

The *Pall Mall Gazette* admits the accuracy of Sir Thomas Chambers' description of the Co-operative Stores as associations trading for profit, but questions whether in the interests of his clients he was well advised in singling out this feature for condemnation. An enlightened shopkeeper would rather detect in it the first symptoms of inevitable decay. A co-operative association which trades for profit will very soon cease to have any advantage over the ordinary respectable retail tradesman. The motives which lead people to deal at the stores are principally two—the certainty that the goods bought are obtained at the lowest possible rate, and the knowledge that it is not the interest of the seller to adulterate them. Neither of these certainties can survive the introduction of trading for profit. The fact that the Association makes money by the sale of goods is an avowal that it might sell them cheaper if it was prepared to forego this gain, and the fact that the profit on adulterated goods is larger than the profit on pure goods reduces the guarantee against adulteration to the respectability of the sellers. In neither of these respects will those who buy at a store be any better off than those who buy at a first-class shop. Unless the Co-operative Associations mend their ways Sir Thomas Chambers will not have to renew his motion many times.

Medical Gleanings.

Without raising in this place the vexed question of the "pious founder," we may venture to doubt whether the annual Harveian oration at the College of Physicians is precisely in accord with the intentions of the illustrious man who established it. Our notion of Harvey would be strangely altered if we could imagine him capable of such littleness as the bequest of money for the purpose of ensuring a perpetual annual repetition of his private virtues and his claims as a discoverer. We believe Harvey to have been a modest, self-forgetful man, and the very words of his will, rightly interpreted, indicate this. He provides that in the oration "shall be a commemoration of all the benefactors of the said College by name, and what in particular they have done for the benefit of the College; with an exhortation to others to imitate those benefactors, and to contribute their endeavours for the advancement of the Society according to the example of those benefactors, and with an exhortation to the Fellows and Members of the said College to search and study out the secrets of nature by way of experiment, and also for the honour of the profession to continue mutual love and affection amongst themselves, without which neither the dignity of the College can be preserved, nor yet particular men receive the benefit of their admission into the College which they might expect; ever remembering that *concordiâ res parvæ crescunt, discordiâ magnæ dilabuntur.*"

If he had imagined that that reference to the "benefactors of the said college" would have been applied to himself, there is every reason to believe that he would have unhesitatingly struck out the entire clause. At any rate it is to be hoped, for the sake of his credit, that he would have so acted. The College of Physicians is, therefore, in this dilemma: either they are annually praising and applauding a man who, by this very act, is manifestly unworthy of respect; or they are using Harvey's money in a way which they must suppose would be distasteful to him if he knew it.

If, however, we exonerate Harvey from a contemptible vanity, we cannot quite so easily credit him with much reason in so far as concerns the disposal of this portion of his property. That is but a poor reputation whose memory must be kept alive by an annual oration paid for in advance. The world has too much to think of to remember all its pious inhabitants; it is, as Antony says, the evil that men do that lives after them; the good is too often interred with their bones. As to Harvey himself, his name will live as long as the blood continues to circulate, and it is rather derogatory than otherwise to his memory to have a paid eulogy on him read year after year.

The orator this year was Dr. Charles West, and his address has since been published. It is a reverent acknowledgment of the great discoverer's genius, and also of his modesty. One of the most learned men of his time, Harvey hardly seems to have realised his own gifts. Dr. West shows that he was teaching his theory of the circulation of the blood as early as 1615, but not until 1628 did he publish his work "On the Motion of the Heart," on which his fame is founded. A man of lofty piety, of simple life, of earnest love for his profession, Harvey well deserves the measure of honour which this century can give him. We by no means grudge it. We merely question whether the College of Physicians shows it in the most worthy manner.

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Here is a hopeful paragraph, which we cull from the *Philadelphia Medical and Surgical Reporter.* It suggests a prospect better even than cremation:—The occasional rejuvenescence of the extremely aged is a well attested fact which has as yet met no satisfactory physiological explanation, so far as we know. The eyesight loses its dimness, and spectacles are discarded: the hearing, long impaired by senile obtuseness, regains its acuity;

a fresh crop of hair clothes again the head which for decades has been bald, and not gray locks, but of the colour worn in early youth; even new teeth appear on the long toothless gums! If we could follow the functional changes which bring about these extraordinary revolutions we might be able to aid and hasten them, and thus postpone senility to an indefinite period. There is a field here worth working, and there are discoveries to be made in it quite as surprising as any yet told in the fairy tales of science.

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In his "Autobiographical Recollections of the Medical Professions," Mr. J. F. Clarke has given an amusing account of a bold quack of the early part of this century. Sixty years ago, he tells us, a young man named Curtis, who had been a dispenser in the navy, having married a lady of some means, came to London, took a house in Soho Square, and commenced practice as an aurist. Of aural surgery he had not even the little knowledge which always makes its possessor dangerous, and of the anatomy of the ear he was utterly ignorant. But this was no obstacle to Mr. Curtis. His first move was to publish and extensively advertise pamphlets on diseases of the ear. "But," says Mr. Clarke, "he soon discovered, as many others of his class have done at the present day, that to found a 'Hospital' or 'Dispensary' for the reception of persons afflicted with disease was the surest mode of obtaining notoriety and wealth. He then founded the institution now known as the 'Royal Dispensary for Diseases of the Ear.' His estimate of the value of this mode of advertising his claims to the support of the public proved to be correct. Crowds of poor people, and rich ones too, flocked to the Dispensary in Dean Street for advice and relief. The fame of the 'great aurist' soon became not only metropolitan, but national." He continued to publish works on various subjects, which attracted much attention, and were lauded in the newspapers. The author was designated a man of science and education; and so he was, but the author was not Curtis, as the works were written to order by a learned but needy medical man. The public, however, were ignorant of their true authorship, and Curtis's fame and success increased daily, until his income amounted to more than 5,000*l.* per annum. Among his patients were members of the Royal Family and of high aristocratic families. Although himself profoundly ignorant of the anatomy of the ear, he was anxious that his patients should acquire some knowledge of its wonderful mechanism; and, accordingly, he purchased some gigantic models of the organs of hearing, which were placed in his waiting-room. His consulting-room chair communicated by tubes with the waiting-room; and, by sitting in this ingenious piece of furniture, and placing his ear to the mouth of the tube, he could hear distinctly the conversation of those who were in the adjoining apartment. Curtis's favourite mode of treatment was to clear out the affected ear by means of injecting warm water through an immense syringe. One day Curtis was summoned to Whitehall Gardens to attend Mr. Peel, who was then Secretary of State for War. On his arrival he found his patient in the drawing-room, with the Duke of Wellington, Sir Astley Cooper, and Sir Henry Halford. He immediately commenced to syringe the ear with his gigantic syringe. Whilst so engaged, Mr. Peel made some inquiries as to the nature of the complaint, its situation, and the *modus operandi* of the remedy. Curtis was in a difficult position, but he was equal to the occasion. "I saw," he told Mr. Clarke afterwards, "that I must put a stop to this inconvenient questioning; so, putting the point of the syringe to the side of the passage, I gave him a dig, and said 'Mr. Peel, if you don't hold your tongue I shall certainly do you a mischief.' He was as dumb as an oyster afterwards." Like all who gain notoriety by illegitimate means, his success was short-lived, for in a few years he was reduced to abject poverty, and ultimately died in a miserable garret at Boulogne.

It seems very doubtful whether the cremation mania is to go farther than the journals. There are, undoubtedly, some strong arguments against it, especially the consideration of the advantage such a course would give to the worst of criminals—those, that is, who, by secret poisonings, destroy the lives of their fellow creatures. But lest the subject should drop, the Bishop of Lincoln has given an entirely new spur to it by propounding the extraordinary theory that "one of the very first fruits of its adoption would be to undermine the faith of mankind in the doctrine of the resurrection of the body," followed by "a most disastrous social revolution, confirming and increasing the widespread licentiousness and immorality which prevail in all the great capitals of the world." These notions the Bishop is reported to have put forward in a sermon at Westminster Abbey quite recently. They are as discreditable to his lordship's faith as to his science. Whether he likes it or not, Dr. Wordsworth will have to reconcile himself to the idea of the complete decomposition and dispersion of the elements of these natural bodies; whether by the quick process of fire or by the more gradual method we now accept, being surely a question, not of religion, but of expediency. The martyrs, who, we are told, sang as they were fastened to the stakes, were clearly not of the same mind as our modern theologians, if these all agree with the Bishop of Lincoln. An American contemporary has suggested the employment of a line of steamers which should be employed in carrying the corpses of a nation out to sea, and there depositing them.

THE INFLUENCE OF HOMŒOPATHY.*

As President of the Homœopathic Medical Congress, which met in London last June, Dr. Dudgeon delivered an address of remarkable argumentative ability, on the influence of homœopathy on general medicine. A good-humoured allopathist can scarcely help enjoying the heartiness and thoroughness of this homœopathic onslaught, and therefore we shall endeavour to reproduce in brief, but as far as possible in the doctor's own words, the pith of his remarks.

Hahnemann died in 1843. At that time "the practice of medicine remained pretty much as it had been at the commencement of the present century. The abstraction of blood in acute inflammatory disorders by leeches, cupping and venesection, was regarded by most orthodox practitioners not only as allowable but as indispensable. Purgation by the most drastic cathartics was regarded as the appropriate medication in almost every case. Mercurialisation to the extent of salivation was still in vogue. Counter-irritation by blisters, rubefacients, issues, setons, and the actual cautery was in daily use. Sudorifics, diuretics, emetics, and so-called alterative treatment were universally employed. The great aim of the practitioner seemed to be to abstract his vital fluids from the unfortunate patient. The veins, the skin, the liver, the bowels, the kidneys and the glands were tapped simultaneously or in succession.

"Here and there a protest was heard, and the great and learned Hufeland could not deny that brilliant cures were effected by the mild specifics of homœopathy; but, while admitting so much, he deprecated the adoption of this method, exclaiming that if it should prevail it would prove 'the grave of science.' It might be supposed that that science was scarcely worth keeping above ground which failed to cure patients as well as its unscientific rival.

"But still physicians held to what they euphemistically termed their 'sheet-anchors.' In inflammatory diseases, bleeding was the sheet-anchor of one set, tartar-emetic the sheet-anchor of another, calomel the sheet-anchor of a third, purgatives, sudorifics, vesicants, diuretics, the sheet-anchors of as many other sets. Other diseases had an equal or greater number of sheet-anchors. How such destructive processes ever came to be called 'sheet-anchors' it would be hard to tell; or why 'anchors' at all—'torpedoes' seems a more appropriate name for them, as they were designed to blow the disease to bits—but they just as often sent the patient to the bottom.

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* *The Influence of Homœopathy on General Medicine since the Death of Hahnemann.* By R. E. Dudgeon, M.D. London. Hy. Turner & Co.

"This belief was time-honoured, traditional, extending up through the great lights of the profession—Cullen, Boerhaave, Sydenham, Avicenna, Celsus, Galen, Hippocrates, Æsculapius—to the obscurity of prehistoric times, when men were taught by the dog how to give an emetic, by the hippopotamus how to bleed, by the sacred ibis how to administer a glyster.

With such strong convictions, it was inevitable that the orthodox practitioner should receive with incredulity the accounts of patients being treated successfully for serious illnesses by a method that produced absolutely no physiological effects on the patient, but only cured his disease without evacuations and without vicarious irritations.

"He was ready to credit every calumny brought against those who were seeking to overthrow his creed. The homœopathic system was caricatured and represented to be a monstrosity of folly and absurdity, which no one in his senses could believe, or could practise if he did believe it. All who prescribed medicines on homœopathic principles—nay, all who associated professionally with those who so prescribed, were held to be guilty of such flagrant immorality that they must be expelled from every medical society, and denied all professional intercourse with the orthodox. Distinguished physicians were summarily expelled from hospitals they had served with honour and success, because they sought to give their patients the benefit of homœopathic treatment. Laws were passed by colleges and societies denouncing all who prescribed medicines according to the principle of similars as unworthy of association with those who prescribed differently. A medical bill was introduced into parliament, one main object of which was to put down what was called 'irregular practice'—meaning thereby homœopathy. And even a verdict of manslaughter was returned against one homœopathic practitioner by the direction of Coroner Wakley, and the culprit was consigned to a cell in Newgate to await his trial for his life, nominally for killing his patient, but actually for his therapeutic heresies. On this occasion the majesty of 'crowner's quest law' was not vindicated by the culprit's ignominious death on the scaffold, but he was speedily released by a grand jury, which thus showed itself devoid of all proper feeling for the maintenance of orthodoxy in medicine.

"That the hostility of the old school was not owing to the failure, but apparently rather to the uncommon success of the homœopathic treatment, is shown by an incident which occurred immediately after the cholera epidemic of 1855. The House of Commons ordered a return of all cases of cholera treated in the London Hospitals, but the College of Physicians, to whom was assigned the task of collecting these statistics, deliberately refused to admit the returns from the London Homœopathic Hospital—then in Golden Square—into their report, on the ground that these returns 'would compromise the value and utility of their'—*i.e.*, the College's—'averages of cure;' the fact being that, while the mortality in the hospitals patronised by the College was 36 per cent., that of the London Homœopathic Hospital has under 16½ per cent. The cases admitted into the London Homœopathic Hospital were certified by the Medical Inspector of the Board of Health—who declared that he was prepossessed against homœopathy when he began his work—as being 'all true cases of cholera in the various stages of the disease, that he saw several cases that did well under the treatment which, he had no hesitation in saying, would have sunk under any other.'

"However, in spite of all these calumnies, caricatures and misrepresentations the new system grew in favour with the public, which judged by results; and, unable or unwilling to explain the success of the treatment in any other way, the orthodox practitioners at last discovered that the best way to treat all diseases was by the expectant or let-alone method, and a series of experiments in Vienna on patients afflicted with pneumonia, conducted by Dr. Dietl, showed that by the ordinary courses of treatment 20 per cent. died, while, when left to nature only 7 per cent. died. This gave the *coup de grace* to the old heroic practice, and it also explains the success of homœopathy.

"Instead of being grateful, however, to the new school for even this much instruction, the supposition was made a text for further abuse. The fearful dishonesty of homœopathic practitioners in pretending to give remedies when it was obvious that they did nothing of the sort introduced many a homily in the medical periodicals, and the paltry persecution of homœopathists by the denial of all professional courtesy was carried on as vigorously as before.

"Still the fact remained that owing to the results obtained in homœopathic practice the time-honoured perturbing treatment of the old school was almost entirely abandoned. The whole practice of medicine was changed with remarkable rapidity. The mildest drugs were alone employed. Treatment became at once 'restorative' and 'supporting.' Diseases were all weaknesses requiring strengthening treatment. Tonics, nutritious food, and alcohol in every form, as wine, stout, ale, and brandy, were the fashionable medicines. It would never do, however, to admit that former practice had been erroneous. A sort of Œcumenical Council, therefore, was held at the College of Physicians of Edinburgh, whose members issued a decree declaring that the Medical Faculty was now and had always been infallible and unchangeable, and that it was disease that had changed, not they. 'Change of type of disease' was the shibboleth that was to reconcile the altered practice with the recognised infallibility of the faculty, that was to smooth all difficulties and efface all apparent inconsistencies.

"It was actually gravely contended that, within a few years, inflammatory diseases had so completely changed their type that whereas patients labouring under them formerly required to be treated by depletion, they could not now stand debilitating treatment, but needed to be supported and strengthened by tonics and stimulants. In short, human nature, it was asserted, had so altered that the self-same disease which was formerly a proof of excessive strength demanding all sorts of weakening processes, was now an evidence of excessive weakness calling for all manner of strengthening remedies.

"The chorus of mutual congratulations on the wonderful discovery had scarcely subsided when the whole theory was upset by a few unenthusiastic sceptics, who pertinently—or, as some thought, *impertinently*—asked for proofs of the alleged change of type of disease. These were, of course, not forthcoming, so that the talk about 'change of type' quickly subsided into ignominious oblivion, and its authors found themselves covered with ridicule, in place of glory.

"But now the 'expectant' method of treatment had become fairly established and medicine accurately corresponded to the sarcastic description of it given by Mephistopheles to the enquiring student, which we read in the first part of Goethe's *Faust*, and which may be freely paraphrased as follows:—

The secret of med'cine is: Nature's vast forces
You study in all their relations to man,
And when you have done this, your only right course is
To leave them to fight it out just as they can.

"But this system did not suit the public. They naturally thought that the *raison d'être* of the physician was to *cure*, not merely to *nurse*, disease. The belief in the curative effects of medicines was too deeply implanted in men's minds to be annihilated in this fashion. Patients objected to having their diseases let alone. This led to a belief in stimulants, which treatment became the next fashion; but its consequences were so deplorable that it is already thoroughly discredited. But now a new phase of medical treatment is coming into play. A faith in drugs is reviving, and though the progress of physiological and pathological knowledge forbids the revival of the old depleting and evacuant practices, an active search is being made for remedies of another sort, and new 'sheet-anchors' are taking the place of the old ones which went to the bottom in the disastrous shipwreck of traditional medicine. Bromide of potassium at one time threatened to assume the character of a universal panacea, but is now rapidly going out of fashion. Chloral hydrate has almost superseded it, but already we observe signs of its waning popularity. Of late years, however, there has been a manifest tendency to search for real specifics, *i.e.*, medicines that produce their remedial effect without evacuation. The researches of Harvey, of Ringer, of Wilks, and of others have tended to bring the pathology of modern times into accord with the homœopathic therapeutics. Not that these investigators are any the more willing to give credit to the new school. Trousseau practises homœopathy under the euphemistic title of '*médecine substitutive*.' Harley writes of belladonna that 'its stimulant action is converted in febrile diseases into a tonic and sedative influence,' and explains the phenomenon thus: 'Two similar effects, the one arising from a local irritation, and the other from the presence of belladonna, like spreading circles on a smooth sheet of water, interfere with and neutralise each other;' which is an explanation of homœopathic action that has been given in almost the same words by members of the school of Hahnemann. Ringer choses his remedies for the same indications as those laid down by Hahnemann.

"But whilst adopting the processes and instruments of homœopathy, they affect to despise and contemn it; they never mention the name of homœopathy without a sneer. They still exclude us from their societies, they still deny us professional intercourse, their organs in the press still misrepresent and caricature our practice. And yet all the while the columns of their journals teem with cases treated by homœopathic remedies which could only have been known to the authors from homœopathic sources. Provided these authors never mention the word homœopathy, or only mention it coupled with abuse, their homœopathic articles are commended, the writers are respectfully spoken of, they are honoured by the medical societies, they fill posts of dignity and emolument in the hospitals and colleges, and are even appointed professors of therapeutics, while their chief glory is derived from their unacknowledged borrowed homœopathic plumes. Those who furtively avail themselves of the medicines given to us by Hahnemann's genius, while they openly revile the giver and continue to enjoy the emoluments and rewards of old physic, might fairly parody the words of Francis, and exclaim, '*Rien n'est perdu fors l'honneur!*'

"There are some conspicuous exceptions to the worst of these petty persecutions, but, as a rule, dishonest pilfering from homœopathy is applauded, while an honest avowal of obligations to homœopathy is vilified by the chief organs of medical opinion. Whatever may be the case in other walks of life, in the medical world as at present constituted honesty is apparently *not* the best policy.

"The latest instance of an orthodox discussion of homœopathic practice is fresh in all your memories. It happened in the youngest of the metropolitan medical societies, the Clinical Society, which was established a few years back on superfine scientific principles. The members of this society had a lively discussion on homœopathy a short time ago, which, of course, as they were all of one mind on the subject discussed, they had all their own way. Each member tried to trump the narrative of the previous speaker by some more harrowing recital of the atrocities perpetrated in the name of homœopathy. Curiously enough the stories told were mutually contradictory. Thus, while one member stated that the homœopathic medicines contained large doses of poisonous drugs, the next speaker asserted that he had it on the best authority—that, namely, of a discharged assistant to a homœopathic chemist—that the globules and tinctures contained no medicine at all. He was followed by an eminent physician, Dr. A. P. Stewart, who gravely repeated the old story first promulgated some thirty years ago by the notorious travelling doctor for Bradshaw's *Continental Guide*, Dr. Edwin Lee—by-the-by, the youth on the side of the Tweed Dr. Stewart comes from, when they hear an improbable story, are in the habit of exclaiming, 'That's a *lee!*'—but that is neither here nor there, though the same cannot be said of Dr. Lee, for he is here and there and everywhere. Well, Dr. Stewart came out with the great old Lee story of a certain Italian duke having died after swallowing three globules. There is the uncertainty usually observable in allopathic stories against homœopathy in the details of this case. The very name of the duke is variously stated as Canizzaro and Canigaro. The only thing certain about the matter is the three globules, which, being white, cannot be identified with the three black crows of another equally celebrated story. At the risk of divulging a secret that may hereafter be used against homœopathy, I will mention the real name of the party who fell an untimely victim to the three globules. It was no duke, not even an Italian, nor yet a man, but an English lady of the name of Harris, who may be heard of on application to a distinguished member of the sisterhood of monthly nurses, whose name I forbear to mention from motives of delicacy which I am sure you will appreciate."

Thus Dr. Dudgeon urges that homœopathy has exercised a mighty, though to a great extent an unrecognised influence in the reformation of medical practice, and although he regrets that nominally the number of homœopathic practitioners is not increasing, yet he sees the doctrines of the school engrafting themselves in the minds of the chief physiologists of the present day, so that he looks forward to an honest recognition of the labours of Hahnemann and his successors, which have so largely contributed to the present condition of medical enlightenment.

We venture to make this remark on Dr. Dudgeon's address. If it proves anything, it proves too much; it indicates that there is a wide-spread conspiracy on the part of the orthodox part of the profession to keep down what they or their leaders well know to be "the true truth." Such an argument is manifestly absurd, and homœopaths would show their wisdom by making less use of it. Even allowing the somewhat fanciful claims which Hahnemannites modestly set up, that anyone who employs a medicine which is in their materia medica is indebted to them for it, it does not by any means follow that Harley, Wilks, and Ringer are bound in honesty to come forward and declare themselves homœopathists. They may agree with homœopathists to a certain degree as to the medicinal virtues of aconite and belladonna, but that is surely no reason why they should accept the theory which covers and limits and comprehends all homœopathic thought. The less does not include the greater, and homœopaths are yet very far from having given us sufficient proof of the exactness of their major proposition. Finally, let it be remembered that the picture, however amusing, of a groping, fumbling profession, though true as a caricature, is by no means true to history. It is easy enough for a man of ability to draw such a sketch, but real advancement in this, as in other regions of thought, is not dependent on shrewd guesses, nor on smart declamations, but on long, painful, laborious, and often imperfect work.

JOSEPH PRIESTLEY.*

THE centenary of the birth of Modern Chemistry, as the discovery of oxygen on August 1, 1774, may justly be called, has lately been celebrated both in this country, at Birmingham and Leeds, and in America, at Northumberland, Pennsylvania; we have therefore thought it would be acceptable to our readers to be reminded of the principal events in the life of the author of this all-important discovery.

Joseph Priestley was born on March 13, 1733, at Fieldhead, near Leeds. At the age of six years he lost his mother, and his education was superintended by Mrs. Keighley, his aunt, a woman apparently of unusually wide sympathies. At an early age young Priestley distinguished himself at school by his great aptitude for learning languages; he was familiar with Chaldean, Syriac, and Arabic, and without the aid of a master acquired some knowledge of German, French, and Italian. A pupil of Maclaurin taught him mathematics. He took great interest in theological controversies, and his aunt's tastes provided him with many opportunities of gratifying his liking in this matter. Having studied for the Dissenting ministry, he was called to be minister of a small Unitarian congregation at Needham Market, in Suffolk, in 1755. There he remained until 1758, when he went to occupy a similar post at Nantwich, in Cheshire. Here he opened a school, and by dint of rigid economy was able to buy some physical apparatus, with which he made, to his young pupils, a series of experiments that drew upon him the notice of the authorities of the Warrington Academy, so well known in connection with the name of Aikin. In 1761 he went to this Academy to take Dr. Aikin's place as teacher of languages and literature, and soon after married the daughter of a Welsh ironmaster. While at Warrington he published a number of works on various subjects, including the "Theory of Language and Universal Language" (1762-68), "Essay on a Course of Liberal Education for Civil and Active Life" (1765), "Chart of Biography" (1765), "Chart of History" (1769), &c. A visit which he made to London during this period gave him the opportunity of forming a lasting friendship with Franklin and Price. He communicated to the former his intention of writing a history of discoveries in the department of electricity; and not only did he receive from Franklin a warm approval of the scheme, but also all the books and memoirs he required; and before the end of the year, by dint of persevering work, the first volume was published, under the title of "The History of Electricity" (London, 1764, 4to). Three editions of this were published by 1775; but it bears evident marks of having been written in haste.

Previous to the publication of this work, in 1766, Priestley was chosen a Fellow of the Royal Society, and about the same time the University of Edinburgh conferred upon him the honorary degree of LL.D. In the same year as the above-mentioned work was published, Priestley left Warrington and became pastor of Mill Hill Chapel, in Leeds. While here he was much occupied with theological controversies, but by no means neglected his scientific studies, as about 1768 his attention was drawn to chemistry, the result being that in 1772 he communicated to the Royal Society a paper entitled "Observations on different kinds of Air," for which the Copley Medal was awarded to him.

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* From *Nature*.

Meanwhile, Priestley had received an offer to accompany Captain Cook on his second expedition to the South Seas; this he accepted gladly, but received an intimation that his nomination had not been confirmed by the Board of Longitude on account of his advanced theological opinions. In 1773, however, at the recommendation of his friend Price, he was appointed librarian to the Earl of Shelburne (afterwards Marquis of Lansdowne) at a comparatively liberal salary. In the following year he accompanied this nobleman into France, Germany, and the Low Countries. At Paris his scientific reputation easily procured him the acquaintanceship of well-known men of science. Besides his salary, Lord Shelburne allowed him expenses for a laboratory, and it was on August 1, 1774, that he made the discovery which marks so important an epoch in the progress of chemical science. The discovery was that of oxygen gas, which he announced in his "Experiments and Observations on Air," the first volume of which was published in 1774.

For some unexplained reason, Priestley and Lord Shelburne parted in 1780, the latter covenanting to allow the former till his death a pension of 150*l.* Priestley then settled in Birmingham, to which he was attracted, no doubt, by the prospect of meeting with men of kindred scientific tastes. Here he was chosen pastor of one of the principal Dissenting churches, his friends subscribing to defray the expenses of his scientific experiments and his theological controversies, for he was regarded as one of the greatest controversialists of his age. His opinions both on ecclesiastical and political topics were much ahead of his age; but this is not the place to enlarge on this aspect of the character of this remarkable man. We may only mention that he was brought forward as a candidate for the French National Convention, and was nominated a French citizen, a title of which he was very proud. For his unconcealed liberality and advanced opinions he was doomed, however, to suffer, as the populace of Birmingham, roused to a state of blind fury by the partisans of Government, rushed to Priestley's house, July 14, 1791, and set fire to it, reducing it and nearly all it contained to ashes. However, as the result of an examination, Priestley subsequently received an indemnity of 2,000*l.* for this mad act, this sum being considerably increased by the liberality of his private friends.

Although no word of complaint escaped Priestley concerning this misfortune, it no doubt influenced him to a considerable extent in deciding him to quit his native land for republican America. After spending three years in a college at Hackney, as Professor of Chemistry and minister, he embarked on April 7, 1794, and fixed his residence at Northumberland, in Pennsylvania. Even here it was some time before he was allowed to remain at peace, as a spiteful rumour had been circulated that he was a secret agent of the French Republic. Here he lost his wife and his youngest son, and here he himself died on February 6, 1804.

Turning now from the external aspects of Priestley's life, let us consider the position he held as a philosopher and the influence that his discoveries had on the science of his time. The ever-memorable discovery of "dephlogisticated air," on August 1, 1774, marks an epoch in the annals of chemistry with which the name of Dr. Joseph Priestley will be always associated. He obtained it by exposing a quantity of red precipitate of mercury to the action of the sun's rays concentrated upon it by a lens; the red precipitate was contained in a flask filled up with mercury and inserted in a basin containing the same metal. "I presently found," he says, "that by means of this lens air was expelled from it very readily. Having got several times as much as the bulk of my materials, I admitted water to it, and found that it was not imbibed by it; but what surprised me more than I can well express was that a candle burned in this air with a remarkably vigorous flame, very much like that enlarged flame with which a candle burns in nitrous air exposed to iron or lead of sulphur; but, as I got nothing like this remarkable appearance from any kind of air besides this particular modification of nitrous air, and I knew no nitrous acid was used in the preparation of *mercurius calcinatus*, I was utterly at a loss how to account for it." He then goes on to show that red lead and nitre also afford oxygen at a red heat, and calls it, consistently with the theory of combustion which was then prevalent, *dephlogisticated air*, regarding it as common air deprived of phlogiston, and consequently possessed of a powerful affinity for that imaginary principle.

This discovery, however, though unquestionably brilliant, must not be allowed to eclipse those other numerous and valuable contributions to science with which this indefatigable worker enriched the stores of natural knowledge during a period ranging from 1768 to 1800. There are indeed few branches of natural science which did not reap some benefit, direct or indirect, from the discoveries of the experimenter whose memory we now recall.

On August 17, 1771, Priestley enclosed a sprig of mint in air in which a taper had been allowed to burn out, and he found on the 27th of the month that the same air then permitted the combustion of another taper with perfect facility. Thus was the secret of vegetable respiration first made known. In the discoverer's own words: "This restoration of air I found depended upon the vegetating state of the plant; for though I kept a great number of the fresh leaves of mint in a small quantity of air in which candles had burned out, and changed them frequently for a long space of time, I could perceive no melioration in the state of the air." In pneumatic chemistry (of which the germs had been originated by Black, Mayow, Hooke, and Hales), Priestley found a new engine of research, and in his hands this Οργανον yielded vast results. His productions in pure chemistry are too well known to be discussed fully here, even did space permit. In addition to oxygen he discovered nitrous oxide (1776), sulphurous anhydride (1774), ammonia gas (1774), carbonic oxide and hydrochloric acid gas (1772): he was also the first to investigate the properties of nitric oxide. We may point to nitrous oxide *en passant* as one of the many instances in which pure science has furnished a substance of practical utility to man: the discoverer of "dephlogisticated nitrous air" little dreamt that the lapse of a century would see this substance used as an anæsthetic for the purposes of dentistry. The pneumatic and mercurial troughs, now indispensable parts of our laboratory "plant," were also bequeathed to us by the philosopher of Fieldhead. Although chemistry received the greater part of Priestley's attention, other branches of science, as before stated, received the benefit of his thoughts. Thus we find a work by him bearing the date 1772, entitled "The History and Present State of Discoveries relating to Vision, Light, and Colours," and we have already referred to his "History of Electricity." From a catalogue of Priestley's works, printed at the end of his "Experiments and Observations relating to various branches of Natural Philosophy," we find that this extraordinary man was the author of no less than thirty-six volumes on various subjects; among others, the theory and practice of perspective, charts of history and biography, rudiments of grammar, observations on education, a course of lectures on oratory and criticism, an essay on the first principles of government, and on the nature of political, civil, and religious liberty, together with large numbers of works on metaphysical subjects and on theology.

But it is with the *chemical* aspect of Priestley's life that we are more particularly concerned at present. The anniversary we now celebrate is that of a purely chemical discovery, and one which to us appears doubly important, first, from the great flood of light which it shed on the processes of combustion and of respiration, both animal and vegetable, aërial and aquatic; and secondly, from the powerful illustration which it affords of the value of a new method in scientific investigation. The purely practical results which in after years flowed from the discovery of oxygen, such, for example, as the oxy-hydrogen blowpipe, which enables large quantities of platinum and of the most refractory metals to be smelted with ease, are at present of minor interest. Is it not this over-anxious regard for "practical results" that has led to the complaints, too frequently made, about the decline of chemical research in England? The spirit of the old investigators of the school of Priestley, Cavendish, and Black seems to be forsaking us, and, with certain exceptions, our most efficient workers are devoting their time and energies to effecting permutations and combinations among the elements—in seeing in how many ways certain atoms of carbon, hydrogen, and oxygen can be combined, or in locating atoms to certain imaginary positions in space. It must not be for a moment supposed that we advocate the entire cessation of this kind of work—it is useful in its way as supplying facts, but by itself it is not sufficient to lead us to hope for any great advancement in our knowledge of chemical laws. The greatest advancements in chemistry have been the results of the application of *physical* discoveries—witness the vapour-density control for the formulæ of compounds and the atomic weights of the elementary gases; or the determination of specific heat as a means of controlling the atomic weight; or turn again to that great engine of modern research, the spectroscope, which has enabled us to extend our list of known elements, and which reduces the chemistry of this globe and of suns infinitely remote to one common basis. So also is isomorphism an essentially physical phenomenon, and one for the explanation of which we shall doubtless be hereafter indebted to physics. The Newton of chemistry may be looked for in the ranks of physicists. In the meantime let us only hope for "new methods" of research—let investigators seek for some method bearing the same relation to our chemistry that the "pneumatic chemistry" of Priestley did to that of his time.

THE IRISH PHARMACY QUESTION.

THE Select Committee to whom the "Apothecaries' Licenses Bill" was referred have agreed to the following report:—

Your Committee having examined witnesses on the general questions raised by the provisions in the Bill submitted to them, have agreed to the following report:

That a great deficiency is admitted to exist in Ireland of shops for the sale of medicines and compounding of prescriptions, by which serious inconvenience is entailed on the public.

That this deficiency arises from the exclusive privileges enjoyed by the Apothecaries' Company, and from the high and consequently expensive standard of qualification which it has thought it necessary to maintain, in accordance with the view that an apothecary should prescribe as well as dispense medicines.

It was suggested to remedy this deficiency by extending to Ireland the operation of the Pharmaceutical Society of Great Britain as it has been extended to Scotland; but your Committee recommend, in preference, the formation of a separate Pharmaceutical Society for Ireland, especially on the following grounds:—

a. That in Ireland there has been for many years a licensing centre for pharmacy. There was no similar institution in Scotland at the date of the extension of the English Pharmaceutical Society to that country.

b. That a local centre will be more conducive to the scientific and professional development of pharmacy in Ireland, this effect having been found to result in the analogous cases of the medical and surgical schools.

c. That the evidence we have heard leads us to believe that there exist in Ireland ample materials for the creation and maintenance of a Pharmaceutical Society.

Your Committee, feeling how important it is that complete reciprocity should exist between the Pharmaceutical Societies of Great Britain and Ireland, recommend that the examinations and qualifications in each of the three kingdoms be identical; the fees to be paid for examination, license, and registration, be equal; and that registered licentiates of each kingdom shall have equal rights and privileges in the three kingdoms respectively.

Your Committee further recommend the adoption of a common register for both Societies, and that both be subject to Government supervision.

Your Committee suggest the following as a scheme for creating a Pharmaceutical Society for Ireland, viz.:—That the Society be formed by naming, in the first place, a certain number of fit and proper persons to be foundation members; with power to make bye-laws, lay down a scheme of examination, and appoint a Board of Examiners, subject to the approval of the Lord Lieutenant in Council.

That a first Board of Examiners be appointed, with representatives from certain scientific bodies, which have expressed their willingness to co-operate.

Your Committee are of opinion that the new Society should be independent of the control of any existing body.

That after a date to be hereinafter named, no person whose name is not on the register of the Pharmaceutical Society of Great Britain and Ireland (with the exception of the licentiates of the Apothecaries' Hall of Ireland) should be permitted to sell any of the articles scheduled or to be scheduled as poisons under the Sale of Poisons Act, Ireland, 1870, or to compound prescriptions containing any such articles.

That the restrictions and penalties on the sale or compounding of medicines or poisons contained in the Act 33 Geo. III. c. 34, be abolished.

That the interests of existing traders affected by the foregoing resolutions as to the sale of poisons should be protected.

It has been suggested to your Committee that the introduction into Ireland of men qualified by a shorter and less expensive process to practise as pharmacists would unjustly affect the interests of the licentiate apothecaries, who at present possess the exclusive right of practising, and have obtained it by a longer and more expensive process.

It would appear, however, that the more expensive qualification also confers a more extended power of practice, with which it is not proposed to interfere; and your Committee is of opinion that no such case of hardship would arise as to call for legislative interference.

Your Committee, in conclusion, report that it is not expedient to proceed further with the Bill referred to them; but that, in their opinion, the Executive Government should at the earliest opportunity introduce into Parliament a measure framed in accordance with the resolutions in this report.

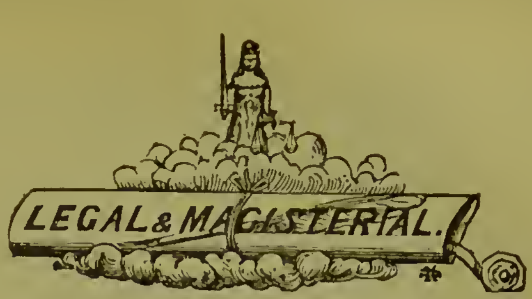
LIQUORICE.

THE liquorice plant may be seen growing at Mitcham, in Surrey, and at Pontefract, in Yorkshire, and the produce, we were informed upon a recent visit to the former locality, is considered more valuable than that imported from abroad. The shrubs present the appearance of an ash plantation, from which they could scarcely be distinguished at a distance. The stems are from three to four feet high, growing erect, equal in thickness to a middling sized willow, and covered with dull green coloured leaves, clammy to the touch on their under side. The flowers, which are of a pale blue, are succeeded by very short smooth pods containing three or four seeds. The length of time required for maturity is from three to four years, when the roots can be taken up and the proprietor may expect to derive some return for his outlay in rent and labour. The depth to which these strike downwards often compares with the height of a man, and the soil needs, therefore, to be of a deep sandy loam, entirely free from stones, which cause the roots to become crooked or warped, and thus diminish the value of the liquorice as a saleable commodity.

The same land will produce a continuous crop, but then a good addition of manure is needed, about 40 or 50 tons per acre, depending upon the previous richness of the soil. The ground, to be properly prepared, must be spade trenched to the depth of four or five feet, and laid in ridges upon the top until the spring; when the mould has become pulverised the ridges can be levelled and prepared for planting, the best time being the month of March. The beds are three or four feet wide, and these must be kept clean during the summer, and about November, when the sap has descended, and the tops appear yellow, the old stems or stalks are cut off close to the ground with a sharp pruning knife, the spaces between the rows being turned over and left rough. The roots are usually dug up with a large three-pronged fork, and stacked in trenches, and this stacking is effected in a dry and sheltered place, the roots being placed upright with layers of sand between them, and a good layer of several inches thick on the top. In this manner the stock is preserved by the proprietor until required for market. Near Pontefract the liquorice is cultivated chiefly for the preparation of a fine kind of cake, which is well known as the Pontefract lozenge, which is made of a refined liquorice, and bears the stamp of the city arms. At Mitcham the liquorice is tilled for the sake of its long slender roots, that find their way to the wholesale druggists and Covent Garden. A good sized stick is about the size of a well-grown horse-radish, although some are as large as a small parsnip, and three or four feet in length. In taking up the crop a trench is made out to the depth of three, four, or five feet, according to the depth of the former trenching: then a rope is tied round the top, but takes all the strength of a man to pull the root up, and it generally breaks off some foot or so below the trenches; this root is not eyed like the horse-radish, and when once broken off it can never sprout again. During the autumn there are small roots that descend only a few inches beneath the surface; these must be forked up and cut close off by the stem of the plant, and if fresh plantations are wanted they are cut into pieces and laid in heaps out of doors, where they are covered with straw and mould during the winter, but if not wanted for planting they are sold for inferior uses. These roots are pithy and not half so sweet as the down root, and if not taken up the ground becomes full of worthless liquorice, and the main crop is completely choked, as was the case before we understood its cultivation in this country.

The liquorice has been growing at Mitcham since the days of good Queen Bess and Sir Walter Raleigh of grateful memory, who brought many new and useful ideas to this country, imbibed during his distant travels: and within the last 30 years there were beds of this shrub at New Cross, where the Thames had left its deposit of mud, but since occupied by the Brighton railway station. At the present time the knowledge of its treatment is confined to certain localities: owing also to the time which elapses before any proceeds can be realised, and the active competition from abroad, there does not seem, from these united causes, any probability that this cultivation will be greatly extended. The consumption is believed to have increased very much of late years, for in addition to its well-known uses by the druggists, quantities are employed in the making of beer, and in the United States still greater quantities in the manufacture of tobacco.

The root is found growing throughout the whole of the southern countries of Europe, extending from the Crimea to Portugal, but in Spain and Italy, and particularly in Sicily and Calabria, the juice makes a considerable article of commerce with this country. The best Italian roots are obtained from Martucci, Ferrara, and Cassano, and are marked with their stamps; these contain 62 to 67 per cent. of soluble extract, and 17 to 26 per cent. of insoluble residue. The exports from Italy in 1870 were 177,462 kilogs., of which 60,365 went to Great Britain; 43,680 to Austria; 64,787 to the United States; the remainder to France and Holland. From Naples the value of the liquorice exported in 1872 was 63,394*l*. sterling. In Spain, the provinces of Seville, Valencia, and Catalonia are the most productive: from that country the exports in 1868 were 1,859,336 kilogs., of which 1,840,448 went to France; 2,393 to Great Britain; the remainder to Sweden, Hamburg, and Portugal. In both these countries great attention is paid to the preparation of the sticks, which are termed "solazze" when in a soluble form. The boiling requires the utmost care, as the juice takes an unpleasant smell and flavour if burnt in the slightest degree. The paste is manufactured from the month of November till March, the warm season being very unfavourable for it; so much so, that it is not advisable to ship any in the summer, as it easily runs into one mass in the boxes, and then is only fit to be sold for damaged liquorice. Of the dried root, 100 lbs. yield about 30 lbs. of the black extract. When the extract has been obtained, it is poured into rolls six or eight inches in length, which are bound with bay leaves to prevent their adhering together. The best quality should be bright, brittle, without pores, and of a good fragrant smell. The liquorice grows wild in Greece, more especially in the province of Achaia, at Corinth, Phthiotes, and Missolonghi, being in great abundance, and the quality is considered good. It is also amongst the products of the Levant. In the year 1872 the imports into Great Britain amounted to 28,000 cwts.; from France we derived 5,603; from Spain, 3,399; Italy, 11,170; Turkey, 5,754; other countries, 2,474; the whole valued at 75,091*l*. sterling. Our exports at the same time were 7,414 cwts., chiefly to the United States, British North America, and Australia, valued at 21,146*l*. sterling. Our consumption of foreign liquorice root, therefore, exceeded 1,000 tons weight, and worth upwards of 50,000*l*. The uses of liquorice were well known to the ancients, and at the present day the Turks and Egyptians consume a drink, which is sold in the streets of their cities in the same manner as sherbet, and is known as "Ergoos;" in France the liquorice water is drunk at the public rendezvous under the name of "Coco;" it is slightly laxative and cooling, anti-scorbutic, and, unlike other sweets, it quenches thirst.


LEGAL & MAGISTERIAL.

BRANDRETH'S PILLS.

The English representative of the proprietors of Brandreth's pills and Allcock's plasters appeared in the Liverpool County Court recently as defendant, an advertising agent being the plaintiff. The only dispute was in regard to the question whether the plaintiff was the principal in the matter. The case was ultimately decided in plaintiff's favour. The lawyers, however, endeavoured to extract some amusement from the case as it went on.

It transpired that from 15,000*l*. to 20,000*l*. a year was paid in advertising the pills and plasters sold by the defendant.

Mr. Hughes, cross-examining the defendant, asked him whether his manager, Mr. Holmes, wrote the different testimonials which professed to come from various parts of the country. The defendant said he did not, whereupon Mr. Hughes, looking at a sheet of printed testimonials, asked if one signed by John Smith was not written by the manager. The defendant replied that it was a genuine testimonial, and that he had the original, but Mr. Holmes did not wish his name to appear, and the name of Smith was substituted.

Mr. Hughes: Where are these pills made?

Mr. Brandreth: In America—Sing-Sing.

Mr. Hughes: That is a State prison, is it not?

Mr. Brandreth: It is three miles from a State prison. If you will read geography, and follow Cobden's advice, you will not ask foolish questions.

Mr. Hughes reminded the witness of a remark of Josh Billings' about advice, and Mr. Brandreth rejoined by recommending the attorney to take some pills, a piece of advice which provoked much laughter.

A SENSITIVE ADVERTISEMENT AGENT.

At Westminster Police Court, on July 17, Mr. Frederick Curtis, pharmaceutical chemist, of 58 Baker Street, Portman Square, was summoned before Mr. Bridge for publishing a defamatory libel of and concerning Mr. Robert Crooks, trading as Crooks & Co., advertising agents, of 2 Montpelier Street, Brompton.

Mr. Palmer, barrister, prosecuted; Mr. Merriman defended.

Mr. Palmer stated that the defendant had entered into an engagement with the prosecutor to cause an advertisement of his to appear in several country almanacks. A discussion ensued between them, and an action was brought by the prosecutor for 90*l*. The defendant then sent the following post-card to the prosecutor:—"Messrs. Crooks & Co.—Timely Caution.—Take care you are not taken up for fraud. You had better be on the look out."

Cross-examined, the prosecutor said his proper name was Robert Crooks Stenson. He had gone in the name of Hamilton & Co., and Crooks & Co. He had been convicted of conspiracy to defraud with a man named Hitchman, *alias* Count Montgomery, and sentenced to 12 months' hard labour, in a case known as the "Lady Scott Swindle."

Mr. Merriman asked the magistrate to dismiss the summons. The defendant had exhibited indiscretion in writing the post-card, but the prosecutor was a swindler.

Mr. Bridge suggested that, as the writing was reprehensible, the defendant should give an undertaking that it would not be repeated.

Mr. Merriman, however, objected to this, adding that the words were written for the public benefit. He should presently ask for a summons or warrant against the prosecutor for obtaining money under false pretences.

Mr. Bridge said the case must go for trial, but he would take the defendant's own recognizances as bail.

ADULTERATED QUININE.

On the 10th, the adjourned case against Mr. W. S. Pearson, chemist and druggist, of Kidsgrove, for selling adulterated quinine, came on before the Stipendiary Magistrate (Mr. Greenwood) at the Tunstall Police Court.

It will be recollected that some few weeks back a sample of quinine, which had been purchased at Mr. Pearson's shop, had been analysed by Mr. Wentworth Scott, of Wolverhampton, the county analyst, whose certificate stated that the adulteration was to the extent of 10 per cent.

When the summons was returnable, and the case came on for hearing, evidence was adduced for the defendant that a portion of the same sample had been analysed by Dr. Attfield, of London, who described the drug as perfectly pure.

The Stipendiary, in order to satisfy himself, determined to have an independent analysis, as laid down in the Act, and therefore directed the remaining portion of the sample of the drug which had been purchased by the inspector to be forwarded to Dr. Paul, of London, and his certificate confirmed the statement of Mr. Scott, with this difference, that, while Mr. Scott stated that the adulteration was 10 per cent., Dr. Paul said it was from 7 to 10 per cent. However, all three analysts asserted that there could not be more than 1 per cent. of cinchonine in the manufacture of the drug.

The Stipendiary's opinion was that Dr. Attfield could not have analysed the same sample as Mr. Scott and Dr. Paul. He fined the defendant 20*s*. and costs.

It is understood that Mr. Pearson will now proceed against the wholesale house who supplied the drug.

FIRE AT MESSRS. WRIGHT, SELLERS & LAYMAN'S.

Early on the morning of July 28 the handsome premises of Messrs. Wright, Sellers & Layman, wholesale druggists, of Southwark Street, were utterly destroyed by fire. The fire commenced about four o'clock, and must have broken out in one of the upper storeys, for, although there is a fire-engine station within a very short distance of the spot, the first that the Fire Brigade heard of it was from a police constable on duty on Southwark bridge, who observed thick clouds of smoke pouring from the roof, and who ran with the call to Watling Street. It was then daylight, or the reflection of the flames would doubtless have been visible. In a very few minutes after the alarm was raised, and before even the Brigade authorities had time to get upon the scene, the roof fell, and the fire then burnt downwards. Eight steam and manual engines of the Metropolitan Brigade, with a considerable staff of men under the personal direction of Captain Shaw, were quickly in attendance, and there was a tolerably good supply of water, but the fire continued to spread, and was not got under until past six o'clock. Some of the engines, indeed, remained at work until close upon noon. The premises of Messrs. Wright were then in ruins, the walls and floors having fallen in; and within a few hours of the commencement of the fire nothing remained of stock, fixtures, or building, but a charred heap of smouldering ruins. The adjoining houses were but slightly damaged. We learn that the loss, which must have been heavy, is covered by insurance.

The promptitude with which business was recommenced was very creditable to the firm. Fortunately another building in the same street, also belonging to Mr. Wright, was vacant at the time, and before the day was out partners and staff were busy in these premises. The safe was dug out, and all the books and letters, together with a large amount of money, were found uninjured. With the aid of other houses, Messrs. Wright & Co. were able to execute their orders on hand with scarcely a day's delay. Mr. Wright will immediately commence to rebuild the destroyed warehouse. The cause of the fire is unknown.

On the 31st ult. a fire was discovered in the shop of Mr. Newton-Mason, dispensing chemist, Great Hampton Street, Birmingham. It originated by the assistant using some naphtha in the shop, which became ignited. The fire was extinguished by Mr. Mason using lime water as an extincteur, but the assistant, a young man named White, was seriously burnt, and had to be taken to the hospital.

Obituary.

Anderson.—April 11, Mr. William Anderson, Chemist and Druggist, of Edinburgh.

Bicknell.—June 21, Mr. William Bicknell, Chemist and Druggist, of Ebury Street, London.

Davies.—July 18, Mr. William George Davies, Pharmaceutical Chemist, of Commercial Road, London.

Dunlop.—August 15, Mr. T. H. Dunlop, Westgate Road, Newcastle-on-Tyne, recently elected Associate of the Pharmaceutical Society.

Fisher.—May 2, Mr. Thomas Fisher, Chemist and Druggist, of Horwich, near Bolton.

Fletcher.—June 27, Mr. William Balgarey Fletcher, Chemist and Druggist, of Rainford.

Holgate.—July 1, Mr. Thomas Illingworth Holgate, Chemist and Druggist, of Bradford.

Johnson.—July 17, at Leixlip, co. Dublin, Mr. Thomas Johnson, for many years of Grafton Street, in that city, aged 62.

Knight.—June 1, William Broughton Knight. Chemist and Druggist, Market Place, Wiveliscombe, Somerset, aged 34.

Rhoads.—June 21, at Lawrence & Co.'s, 485 Oxford Street, London, after a few hours' illness, Mr. Levi P. Rhoads, of the firm of Rhoads & Harris, Philadelphia, U.S.A.

Ryott.—May 10, Mr. Robert Atkinson Ryott, Chemist and Druggist, of Newbury.

Short.—June 2, Mr. William Short, Chemist and Druggist, of Tattershall.

Standring.—July 21, at Buxton, Mr. Thomas Standring, late of Piccadilly, Manchester, aged 72. He had been twice a member of the Pharmaceutical Council.

Ward.—July 1, Mr. William Benjamin Ward, Chemist and Druggist, of Little Lever, near Bolton-le-Moors.

The girl, Helen Heath, with her father and young man, who had trumped up the disgraceful charge of rape against a Birmingham chemist, which, as we reported last month, proved entirely without foundation, has inserted in the local papers a humble apology "for having knowingly and wrongfully brought a charge of rape" against him, which she acknowledges "was without the slightest foundation in fact."

The following specimens of American culture are culled from pharmaceutical experiences by the *Tennessee Pharmacal Gazette*:—

Ooost 18, 1873.—Mr. Gowing, we ere all well Ceptin Betsy ann. she complanes a hepe, an has bin for those 3 munths. doctor Beins says shes got a teech uv the hemrids on the Brown chitis, Ole mrs kuper was over tu see my wife an son's. She was jist like Betsy ann. an Sase tu git 1 vile of ile Spike an a once uv Baberry Bark an make a tee. an rub the ile of Spike onto the nex.

I am sufferin at times with costic bowels Please to send me

1 once ov calarimy
1 once ov ruburb
1 once ov aloways

Please tu make em up into pills uv the rite cize I send 15 cents tu pay for all of it. pr Mr Johnson yours till deth
Peter Dickson

PATENTS

[The following list has been compiled expressly for the CHEMIST AND DRUGGIST by L. de Fontainemoreau & Co., Patent Agents, 4 South Street, Finsbury, London; 10 Rue de la Fidelité, Paris; and 33 Rue des Minimes, Brussels.]

Provisional Protection for six months has been granted for the following :—

2032. A Herzen, of Florence, Italy. Improvements in preserving fresh uncooked meat and other animal food, and antiseptic mixtures for that purpose. Dated June 11, 1874.

2040. J. & G. Miller, both of Aberdeen, North Britain. Improvements in purifying paraffin, and in apparatus therefor. Dated June 12, 1874.

2077. R. S. Newall, of Newcastle-on-Tyne. Improvements in the method of condensing muriatic acid gas and other fumes. Dated June 15, 1874.

2079. P. Curie, of Cornhill. Improvements in the manufacture of anthracene. Dated June 16, 1874.

2124. W. E. Gedge, of London. An improved preparation and apparatus for testing alcohols and ascertaining the quanity of foreign bodies mixed therewith. Dated June 18, 1874.

2145. T. Robinson, of Widnes, Lancaster. Improvements in the manufacture of sulphates of soda and potassa, and in apparatus employed therein. Dated June 20, 1874.

2168. E. P. H. Vaughan, of London. Improvements in the mode of treating phosphates of lime for manuring and other purposes. Dated June 22, 1874.

2242. J. Imray, of London. Improvements in the process of rendering alkalies caustic, and apparatus for that purpose. Dated June 29, 1874.

2272. W. Beatson, of Rotherham, York. Improvements in the manufacture of alum and products resulting therefrom. Dated June 30, 1874.

2273. T. Myerson, of St. John Street, Clerkenwell. An improved process for treating blood for the manufacture of manure. Dated June 30, 1874.

2279. J. D. De Savignac, of Paris. An improved vaginal injection canula. Dated July 1, 1874.

Letters Patent have been issued for the following :—

211. J. H. Smith, of Lewisham, Kent. Improvements in the manufacture of tape plasters or bandages, and in mounting the same upon reels or holders. Dated Jan. 16, 1874.

276. N. Thompson, of Brooklyn, New York, U.S. Improvements in stoppers or covers for bottles, jars, and other hollow articles, and in appliances to be used therewith, for the purpose of securing and removing the same when required. Dated Jan. 22, 1874.

283. H. Y. D. Scott, of Ealing, and J. B. Spence, of Manchester. Improvements in the treatment of sewage and ammoniacal liquids Dated Jan. 22, 1874.

687. S. H. Johnson, of Lea Bank Works, Stratford, Essex. Improvements in the construction of furnaces and retorts for the manufacture of bisulphide of carbon. Dated Feb. 23, 1874.

1501. J. Carrick, of George Square, Glasgow. Improvements in apparatus for respiratory and inhaling purposes. Dated April 29, 1874.

1583. T. Jackson, of Clayton, near Manchester. An improved method for the recovery of sulphuric acid when combined with certain chemical products. Dated May 5, 1874.

Specifications published during the month :—

Postage 1*d*. each extra.

1873.

3805. W. Weldon. Manufacture of carbonate of soda, &c. 4*d*.

3884. A. Nicols and another. Preserving animal and vegetable substances. 4*d*.

3912. A. Smith and another. Decolourising hydrocarbons. 4*d*.

3961. J. Clarkson. Securing artificial teeth. 10*d*.

4000. P. R. De J. D'Hnmy. Stoppers for bottles, &c. 8*d*.

4007. J. H. S. Wildsmith. Artificial manure. 4*d*.

4011. P. Hubert and another. Stoppering flasks, bottles, &c. 6*d*.

4013. H. Kenyon and another. Manufacture and application of nitrogen, &c. 4*d*.

4043. D. Dawson and another. Dyeing. 8*d*.

4092. H. M. Ramsay. Treating sewage. 4*d*.

4114. J. Edwards. Stopper and bottle for aërated liquids. 8*d*.

GAZETTE.

BANKRUPTS.

EVERSHED, ARTHUR, 8 Belle Vue, Hampstead, licentiate of the Royal College of Physicians. Aug. 5.

OSMOND, GEORGE, Mattingly, Swindon, chemist. July 27.

LIQUIDATIONS.

(By arrangement or composition.)

Notices of first meetings have been issued in *re* the following estates. The dates are those of the petitions:—

BAGNALL, SAMUEL F., Norwich, surgeon. July 21.

BARTLETT, FREDERICK, Ridenhall-with-Harleston, Norfolk, chemist. Aug. 7.

BAUER, HUGH, and CHEESEMAN, EDWARD, trading as OSBORNE, BAUER & CHEESEMAN, 19 Golden Square, perfumers. July 15.

CHEESEMAN, EDWARD, 19 Golden Square, perfumer (separate creditors) July 15.

CRANSWICK, EDWARD, High Street, Bognor, chemist. July 23.

DAVENPORT, RICHARD, Bridlesmith Gate, Nottingham, chemist. July 11.

FARNDON, LEVI, 6 Bramley Road, Notting Hill, doctor. July 22.

GAGE, GEORGE, Luton and Dunstable, Bedfordshire, chemist. July 31.

HARKER, WHITTAKER, Bacup, chemist. July 9.

HEPWORTH, BENJAMIN, Cleckheaton, Yorkshire, manufacturing chemist. July 6.

LAWRENCE, HENRY, 11 Lower Phillimore Place, Kensington, chemist. July 20.

LENDRUM, JAMES EDWARD HOTCHKISS, trading as BROWSE & LENDRUM, 51 Frith Street, Soho, perfumer and fancy soap maker.

MOORE, GEORGE, King Street, Maidstone, homœopathic chemist. July 3.

PROSSER, THOMAS, Ebbwvale, Monmouthshire, chemist. July 11.

RUSSELL, ARTHUR J. F., Worksop, surgeon. July 21.

SHEPPARD, HANNIBAL HENRY, Norwich, surgeon. July 9.

TORBOCK, ROBSON, Middlesborough, surgeon. Aug. 7.

WARD, JOSEPH WILLIAM, 36 Heath Street, Hampstead, late High Street, Bloomsbury, surgeon. July 17.

DIVIDENDS DECLARED.

BENSON, GEORGE W. (liq.), Welshpool, Montgomeryshire, druggist and victualler. 1st div. 6/8. P. Roper, 3 Church Street, Welshpool.

STOCKEN, CHARLES (liq.), Tunbridge Wells, cattle medicine dealer. Div. 20/. H. Creeisy, 10 Garden Road, Tunbridge Wells.

VON SCHMITT, GERARD (bkt.), 28 Brook Street, Grosvenor Square, M.D. 1st and final div. 1/6. S. Smith, 65 Basinghall Street.

PARTNERSHIPS DISSOLVED.

AUDOIRE & CO., Lombard Road, Battersea, and THE BATTERSEA CHEMICAL COMPANY, Sherborne Lane, London, chemical and oil merchants. June 12. As regards Henry Darling.

BLACKMAN & WHITE, 18 High Street, Whitechapel, surgeons. June 16.

CHANDLER & CHETWOOD, 10 King Street, Finsbury Square, surgeons. May 20.

EVERSHED & LESLIE, Arundel, Sussex, surgeons. May 20.

FELDER, T. W. & B., Newbury, grocers, druggists, glovers, fellmongers, and woolstaplers. May 23.

FOSTER & BEEDZLER, Queen's Gardens, Paddington, chemists. July 1. Debts by Michael E. Foster.

GLAISYER & KEMP, North Street, Brighton, chemists. Debts by Thomas Glaisyer.

GREENHALGH & CO., Bradford, Manchester, manufacturing chemists. May 5.

HODGKINSON, STEAD & TREACHER, 127 Aldersgate Street, chemists. June 30. As regards George F. Hodgkinson.

MERRICK & LEONARD, Birmingham, and Barrow-in-Furness, oil merchants and drysalters, and Smethwick, near Birmingham, coal merchants, and W. H. MERRICK, Wolverhampton, chemist. July 7.

RIPLEY, HORACE, & CO., 3 Mincing Lane, indigo and colonial brokers. July 10.

ROWSELL & MANSFIELD, Tower Hill and Mincing Lane, cochineal and indigo merchants. June 30. Debts by Frederick Rowsell.

SCOTT, W. J. & CO., and SCOTT, HUNT & CO., Ward Road, Stratford, chemical light manufacturers. June 17. As regards William J. Scott.

SMITH & JOHNSON, Lamb's Passage, Chiswell Street, drug, &c., grinders. Feb. 14.

THOMPSON & ORMSBY, Ashley, Staffordshire, and Woore, Salop, surgeons. June 15. Debts by Edward T. Thompson.

THOMSON & KELLEY, trading as THE CROWN PERFUMERY COMPANY, 40 Strand, perfumers and manufacturers of fancy soaps. July 9. Debts by William S. Thomson.

WARD & LLOYD, 4 High Street, St. Giles-in-the-Fields, surgeons. July 6. Debts by Samuel Lloyd.

WHITMARSH & GLANVILLE, Hounslow, surgeons. June 30. Debts by William M. Whitmarsh.

THE CHEMIST AND DRUGGIST

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FOREIGN AGENTS.

ADELAIDE	Messrs. Faulding and Co.
AUCKLAND	,, Kempthorne, Prosser, and Co.
BOSTON, U.S.	,, Office of "Boston Journal of Chemistry."
CALCUTTA	,, Bathgate and Co.
CHICAGO	,, W. A. Weed and Co.
DUNEDIN	,, Kempthorne, Prosser, and Co.
MELBOURNE	,, Felton, Grimwade, and Co.
MONTREAL	,, Evans, Mercer, and Co.
NEW ORLEANS	,, E. J. Hart and Co.
NEW YORK	Mr. P. M. Sherwood, 117 John Street.
PHILADELPHIA	,, W. M. Dickson, 619 Walnut Street.
SAN FRANCISCO	Messrs. Bancroft and Co.

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J. ALFRED WANKLYN, M.R.C.S., London,
Formerly Professor of Chemistry in the London Institution;
Joint Author of a Book on Water Analysis, and of the Ammonia Process.

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General Depôt for all Mineral Waters.

THE MOMENTOUS QUESTION.

THE eleventh annual meeting of the British Pharmaceutical Conference is ended, and it had to be reported literally at the eleventh hour. About the same happy moment when our visitors were dreaming pleasantly of past events, and of the kindness of Mr. T. H. Hills, the Press was silently at work, but with marvellous celerity, in placing on permanent record the events of the two preceding days. Nothing in our city of wonders is more wonderful than the exhibition of this quiet power.

Now we are comparatively at leisure, and may take a calm survey of men and things. London, with its manifold advantages, has certain drawbacks. The guests were familiar with our crowded streets and busy thoroughfares: they knew the external aspect of our show buildings, and were not ignorant of the Exchange, our National Post Office, or the Bank. We had nothing new to offer to the tourist's gaze, while but two novelties could be provided, the "Paradise Regained" of Leicester Square, and the imminent collapse of Temple Bar. We thought it, therefore, rather hard that the President should have reminded us at such length of Examinations, Co-operation, Adulteration, and the general status of the pharmacist. Nor can we quite forget that, *vixere fortes*, strong men have gone before, who have clothed the dry details of the abstract in language and in a manner which Arnold would have been proud to own. Should we at some future date receive a lucid exposition of the bye-laws—succinct in statement, clear in enunciation, and faultless in arrangement—we utter beforehand the solemn warning that we shall ——we shall go to sleep.

These were our thoughts on the conclusion of the meetings, but we have reflected since, and having conscientiously read through the inaugural address, we forgive its departure from the strict objects of the Conference, for it was carefully and well constructed.

Let us then turn to a cognate matter which requires serious consideration. We allude to the last meeting of the Council, and to the revelations made by the General Purposes Committee. What *is* to be the fate of the London School of Pharmacy? That is the momentous question.

The three Professors present their several reports as to the sessional prizes.

Professor Redwood considered the new lecture arrangements satisfactory in every respect, except in regard to the question of remuneration. There had been forty-one entries for the first course, and forty for the second. There were two examinations—one for attendants during ten months, the other for the students of five months only. Thirteen competed for the former, and for the latter five.

Professor Bentley reported very favourably; he had every reason to be satisfied, except as to the numbers.

Professor Attfield reported that there had been twenty-three entries in his class during the ten months, the average period of work being three and three-quarter months. His satisfaction or otherwise is not expressed.

Professor Bentley also reported that there had been only one collection of plants sent in.

It appears further (the quotations are accurately made from the official journal) that it had been stated on very good authority that the two courses on chemistry and pharmacy were almost word for word identical, and if that were the case one could hardly be surprised at the results not being satisfactory. (Mr. Atherton.)

A member said that they could not blink the fact that it was commonly reported that the two courses of lectures were precisely the same, and this was causing great dissatisfaction with the new system. (Mr. Betty.)

Another member said that he had heard it reported that not only were the lectures identical in the second courses, but also the illustrations and experiments; so that any students who had taken notes of the first course found the second absolutely useless. (Mr. Hampson.)

We are averse to the sensational, and would, therefore, but remark that the affair reminds us of a comedy, with a five-act tragedy in reserve. We congratulate the two Professors on being able to contribute a favourable report, though there is one disturbing element. Professor Redwood states that his income is diminished by 100*l.*: and there occurs this strange sentence:—

"The President said he understood it was stated at the Committee by Professor Bentley that the session had been very unremunerative to him—that he had received 75*l.* less than last year.

"Mr. Williams said it was 220*l.* less that Professor Bentley had received. Mr. Betty thought, if that were so, they were bound at once to institute an inquiry."

Our opinion coincides with that of Mr. Betty. Elsewhere Mr. Williams says, "The theory was, that what was formerly taught in ten months could be taught in five; but for his own part he did not think ten months any too long a time in which to learn chemistry and pharmacy." Parents and guardians have thought over the matter for themselves, and so have students, and the result is duly chronicled in the official journal. The moment the London School of Pharmacy left its vantage ground as the standard educational establishment, and descended to competition with private preparatory schools, it became one school amongst other schools, and its prestige was ended. We approach the subject in no spirit of fault-finding or of opposition; but we venture to express a respectful regret that such an unwise as well as undignified policy should have been adopted. That some weakness must lurk in the newly-constituted arrangements is evident from the painful pecuniary position to which the Botanical Professor has been reduced. There can be—there never has been, a fault in the teaching of that admirable instructor, whose patience is inexhaustible, and whose course ranks amongst the very first as a thorough explanation of his particular branch of science. We make, then, our humble petition that our School of Pharmacy may be restored to its original position, that once more it may be the shrine to which our students may resort irrespective of Major and Minor considerations. And on behalf of the British Pharmaceutical Conference we ask, how shall we worthily recruit our ranks in future years from this proposed set of men of five months' educational standing? Who is to elucidate the chemistry of aconitina, and who shall explain the uses of oleic acid? Who shall tell us how to prepare a liquor, or be able to demonstrate the nature of a starch by the aid of the toy microscope now at the disposal of the Curator?

One mystery waits yet for solution. Certain members of the Council voted for delay—the system has not had time to be fully developed. May not caution be carried to an unadvisable extent, and prudence be overstrained? There is a fear entertained by some lest this procrastination may lead to an unfortunate event, and the affairs of the School of Pharmacy may require a coroner's inquest to ascertain the reason of its untimely end rather than a Committee of General Purposes to investigate the efficiency of its regulations.

VERGING ON IMBECILITY.

SUCH, according to the *Times* newspaper, is the character of the arguments advanced by Sir Thomas Chambers and Mr. Forsyth in opposition to the trading tendencies of the Civil servants of the Crown. Those arguments were an able exposition of the views which so many of us entertain on this question, and their force was admitted in a fair and honourable spirit by Sir Stafford Northcote, whose line of conduct, however, as far as any action was concerned, was in this, as in so many other instances, the counterpart of the policy laid down by his predecessor, Mr. Lowe. We identify ourselves most willingly with the "imbecility" of the representatives of Marylebone, and in the name of the chemists and druggists of this country we thank them for so thoroughly presenting the subject to the House of Commons. We are by no means disappointed at the result. Nothing better could be reasonably anticipated. The Civil servants may play with their situations a while longer yet, but the trading classes are making great advances towards the possession of the influence which rightly belongs to them, and the speech of Sir Thomas Chambers was a hard blow struck on their behalf. Mr. Macdonald showed a pitiable inability to comprehend the question under discussion, and his speech neither did credit to his intelligence nor induces us to hope for a larger contingent of working men M.P.'s in Parliament. With that one exception, every member present must surely have understood that not co-operation, but civil service trading, was the subject of complaint. Both Sir Thomas Chambers and Mr. Forsyth expressed this clearly enough. The Chancellor of the Exchequer somewhat disgraced his otherwise able reply by raising again the old argument that if these stores were prohibited others would inevitably rise on their ruins. Whether they would or not is not to the point. Tradesmen will never go to Parliament to ask for an Act against co-operation; all they ask Government to do is what they are compelled to appeal to Government for, that is, to keep the servants of the country to their work; and, notwithstanding the insolence and bluster of the *Times*, and the apathy of members of Parliament generally, we venture to predict that the *non possumus* answer will not always be returned. This opinion, too, is shared by many of the most honest and most intelligent members of the Civil Service itself—those gentlemen, for example, who, when a division of profits was resolved on, withdrew altogether from the association rather than take part in a course which they considered to be not only dishonourable but suicidal.

CONSIDERATIONS OF PROFIT.

THE President of the British Pharmaceutical Conference seems scarcely aware of the high estimation which he himself holds of the character of human nature. In a half desponding tone he allows that of all mankind there is perhaps one in a thousand whose conduct is not "ruled by considerations of profit." And yet, holding such a creed as that, Mr. Groves is not satisfied. A not very elaborate calculation founded on this basis reveals the astounding fact that we have in this country alone an army of something over 30,000 men (or angels) not "ruled by considerations of profit"—English Israelites, in fact, who have not bowed the knee to Baal. And still Mr. Groves "asks for more." For ourselves we are both surprised and contented, and as the panorama of pharmaceutical politics is unfolded before us in the President's address, we would request that this tableau should be allowed to rest for a few minutes while we examine its features.

Who are these 30,000 beings with souls so elevated that no "considerations of profit" can affect them. Mr. Groves seems to consider that young men who pass the Major Examination of the Pharmaceutical Society make up a fair battalion of these, and, doubtless, he would add all those workers in the various branches of scientific investigation who bring their work before the public, apparently with no other object than to benefit the world by an increase of knowledge if not of happiness. This brings us to the point where we should possibly diverge from Mr. Groves. We by no means dispute the existence of these 30,000 unselfish workers in this country, but they are not that class to which reference is being made. "Considerations of profit" are by no means confined to money making. The desire for wealth, indeed, is the weakest of the series in comparison with either of the other selfish motives of desire—fame or power. And to a certain extent it is the most legitimate. He is beneath notice who seeks after fame at the expense of his creditors, and in this Mr. Groves will assuredly agree with us. Setting aside, therefore, those whose notions of honour are warped or distorted, where are they to be found who, as pharmacists, are independent of "considerations of profit?" They are by no means in the proportion of one in a thousand, and we will go further, and assert that it is not at all desirable that they should be. Therefore, we once again protest against the theory which is unceasingly implied by many of the noted advocates of advanced pharmacy, to the effect that there is a degree of crime attaching to those who simply do their business honestly and legitimately, and devote their leisure, it may be, to other occupations, to them more congenial than the discovery of a new alkaloid, or the investigation of an unknown chemical. A man enters the trade of pharmacy with the simple object of earning a honest living. He is no more bound to devote his life to a particular line of investigation than he is bound to subscribe to this journal; and it is intolerable that he should be continually held up to the scorn and reprobation of the rising generation by those few congenial spirits who have adopted pharmacy not only as their trade but also as their hobby.

We say it is not desirable that the proportion of those should be increased who work for pharmacy without "considerations of profit." We do not mean by this that there is no need of more high-class pharmaceutists. They are welcome in any number; but let it be perfectly understood that they are impelled by "considerations of profit" in one form or another. The Pharmaceutical Society could possibly create a better universe than the one we now live in if it were required to do so; but until it has succeeded in the experiment let it submit to such conditions as now keep society together, and, while claiming all the credit which it has ahonourably won, let it avoid the narrowness of condemning all who are not working in the same field as itself.

VICTIMS OF NITRO-GLYCERINE.

THE amiable properties of nitro-glycerine have been sufficiently illustrated to win our unqualified respect, but it is desirable that these should not be forgotten. One or two instances from America will keep this demonstrative chemical offspring in remembrance. Both the following events occurred quite recently.

In Jersey City a gentleman and lady were taking a moonlight stroll on the heights, in the vicinity of one of the shafts of the new Delaware and Lackawanna railway tunnel. The man saw on the ground the glimmer of a small tin tube, picked it up, and slapped it from one hand to the other, when a terrific explosion ensued. His eyes were destroyed, his flesh lacerated, his limbs broken, while his lady companion was dreadfully injured. It was a discarded nitro-glycerine tube, such as are used in blasting, and is supposed to have been thrown away by workmen at the tunnel shaft.

In Parker City, Pa., a young man was carting six cans of nitro-glycerine over a rough road in a waggon, when, from some cause, which will never be explained, it exploded. The man, horse, and cart were literally blown to pieces. The man's head and part of his breast were found 300 feet distant, having been blown over the tops of the highest trees. Fragments of his limbs were scattered in different directions, and his right hand was found half a mile from the spot. Even the horse's shoes were torn from his feet.

THE ADULTERATION ACT IN CANADA.

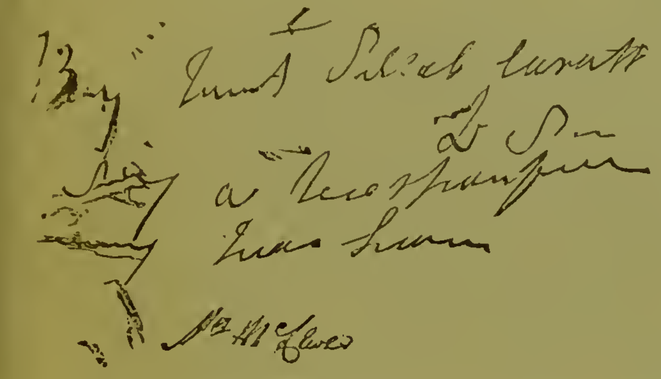
IT is a principle in ethics that the influence of an evil deed can never be circumscribed; it spreads its ever-widening circles through all time and space. This fate seems to be reserved for our Adulteration Act. A corresponding one has lately passed the Canadian legislature, and from the 1st of January next the tradesmen of the Dominion are to be liable to the same harassing as we at home have borne. What is most singular, however, is that the Canadian authorities seem scarcely to have studied the experience gained in England at all. Consequently, unless it should happen that all their analysts prove very learned and very wise men, they are just laying a snare for themselves which they might, to a great extent, avoid.

Their definitions are charmingly simple. Adulteration, for example, is held to be the admixture of any deleterious ingredient, or any material or ingredient of less value than is understood or implied by the name under which the article is offered for sale. This will ensure a pretty liberal crop of arguments as to whether, for example, flour is "understood or implied" as an ingredient when mustard is sold. *Drink* means and includes any liquid used as a beverage, and any article used in or for the preparation or partial preparation of any beverage. *Drug* means and includes all articles used for curative or medicinal purposes. These definitions, says the *Canadian Pharmaceutical Journal*, are sufficiently full and explicit, and will much facilitate the working of the Act.

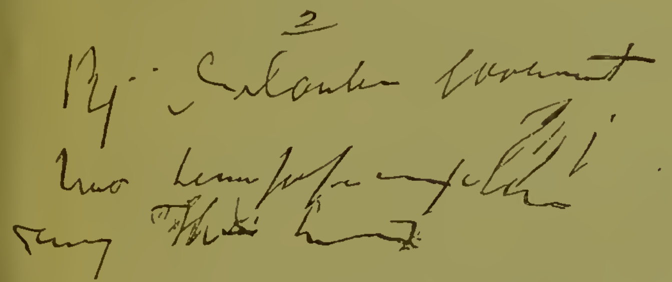
They are so full that, without stretching the Act any more than ours has been strained, drink may be held to include the spoon which stirs the toddy, and surgical instruments will fairly come within the classification of drugs.

ILLEGIBLE PRESCRIPTIONS.

F the medical profession have recovered from the state of rritation into which, according to Mr. Sandford, they were ecently thrown by certain too free pharmaceutical criticisms, ve may perhaps venture on an impertinent remark or two in eference to the caligraphy with which some of them disigure clean sheets of note paper. We published a specimen wo or three months back. The originals of the reproductions vhich follow have been sent us by Mr. Alexander Cleghorn, of Cupar, Fife.



On receiving the above, Mr. Cleghorn not unnaturally admitted his inability to read it, but promised his customer that he would write to the prescriber for an explanation. Imagine he dismay of the chemist on being favoured with an elucidaion of which the following is a fac-simile:—



Such disgraceful monstrosities are, it is true, exceptional, and it is fair to say that, now-a-days at least, the majority of prescriptions presented to a dispenser are good specimens of handwriting. We shall be much obliged, however, for the loan of any abnormal ones, as it is a public duty to expose and stamp out such a slovenly and dangerous practice. As indicating the opinion of the educated outside public, we may copy some remarks from the *Scientific American*, in which journal our former fac-simile was reproduced. Our contemporary says:—

"For all that might be recognised, after careful examination, the scrawl which we give in fac-simile herewith might indicate either the vagaries of Planchette or the tracks of a spider whose legs had been dipped in ink. It happens, however, to be neither, but, on the contrary, a physician's prescription, printed in the London Chemist and Druggist—a formula for a medicine which, if wrongly compounded, might produce death directly, or be indirectly injurious by failing to better the sufferer. We publish it as a specimen of the difficulties and doubts which dispensers of drugs are too often called upon to decide. It is not an uncommon thing for physicians, lacking knowledge of chemistry, to order compounds the ingredients of which exercise their mutual affinities in some unlooked-for manner, tending perhaps to neutralise the remedial effect sought in the mixture; but where ignorance may be palliated, carelessness may not be, and for a doctor to emulate the caligraphy of Rufus Choate or Horace Greeley is a fault which cannot be condoned. Druggists receiving illegible prescriptions, or those in which there is the least ambiguity in the terms, should return them promptly to the patient with reasons."

THE LAST NEW PERIL.

The *Sanitary Record*, a new journal, has its reputation to make, and, therefore, we must not look too severely on its early efforts to raise a sensation which shall serve as a favouring breeze. But surely our contemporary will not gain much credit by indulging in such annotations as the one headed "Nursing Bottles," in the issue of July 18. We, or rather "mothers," are therein cautioned against the glass nursing bottles which bear the name of the maker stamped in relief. "These letters," says the learned writer, "are hollow from the inside of the bottle; the milk is apt to collect there and coagulate, and it becomes almost impossible, after a certain time, even with great care, to remove the residue, which acts as a ferment in spoiling the baby's food."

We can regard this paragraph only with a certain degree of pity. Evidently the author has bought a feeding-bottle for the purpose of discovering something wrong in it, and after various unsuccessful attempts to detect the seldom-failing lead lurking in some hitherto unsuspected corner, he has been fain to content himself with this ludicrous, though well-meant, warning. The name of the maker in relief on the outside of the bottle does not necessitate a corresponding depression within, and in the bottles with which we are acquainted this does not occur. If it did, the possibility of milk collecting and coagulating in those hollows, resolutely refusing to be washed out, is so startling as to surpass our powers of belief. There is far more danger of the collection and coagulation of nonsensical paragraphs in the "hollows" of a journal, deteriorating what would otherwise be good wholesome matter, and readers should be warned to be on their guard.

A SECOND BEDFORD PHARMACY PRIZE.

Professor Bedford, of New York, offers a copy of the United States Pharmacopœia to the student who sends the best set of replies to the undergiven questions. They are the same as were given to his pharmacy class during the lecture session as "practice questions." The replies must be accompanied with all the necessary mathematical calculations, to show the method by which the answer has been obtained. British weights and measures are understood. Papers must be sent into us previous to September 15, and the result will be announced in our October issue.

Questions.

1. What would be the measure of a fluid, weighing 20 troy ounces, and having a specific gravity of 1·250? *Ans.* fl. oz. grs.

2. What would be the measure of a fluid weighing 40 ounces (av.) and having a specific gravity of 1·150? *Ans.* fl. oz. grs.

3. What would be the weight of a fluid (troy ounces and grains, and also avoirdupois ounces and grains), which measures 15 fluid ounces, and has a specific gravity of 1·104? *Ans.* troy oz., grs. avoirdupois oz. grs.

4. What is the specific gravity of a solid body which weighs 10 troy ounces and displaces 12 fluid ounces of water? *Ans.* sp. gr.

5. A brass globe weighing 1,000 grains floats in a liquid, but is immersed three-fourths of its depth; what is the specific gravity of the fluid? *Ans.* sp. gr.

FRAUDULENT DEBTORS.

A few such sentences as the one pronounced by Mr. Justice Lush at last Stafford Assizes will have more effect in improving the tone of our commercial morality than ten thousand volumes of moral essays on the subject. The victim was a shoe manufacturer in Stafford who had gone through the not unusual course of suspending payment and offering 5*s.* in the pound. A very good offer too, as times go, and doubtless Mr. Mountford compared his virtue with that of other men he knew, and felt he had done a handsome thing. But Mr. Nicholson, the trustee, was not satisfied with the debtor's statement. There were 1,800*l.* gone which could not be accounted for, and ultimately Mr. Mountford was apprehended under the Debtor's Act, 1869. The loose and careless way in which bankruptcies and insolvencies are treated in this country by creditors, and the sympathy which judges have generally shown towards debtors, have combined almost to frustrate the intentions of that very valuable Act. But on this occasion the result was different. Mr. Justice Lush explained that the trustee had not gone beyond the strict line of his duty in this matter, and while sympathy for the family of the debtor was natural, the wives and children of creditors were not to be forgotten. He sentenced the prisoner to 18 months' imprisonment, with hard labour.

COUNSEL'S OPINION.

The Pharmaceutical Society has now before it the opinion of a no less authority than Sir Thomas Chambers, Q.C., on the action of the Civil Service Stores in regard to the assumption of the trade of chemists and druggists. Sir Thomas Chambers distinctly asserts that their conduct in this matter is "contrary to law." Perhaps if the Council perpetually refuses to take action against these, the most serious offenders against the Pharmacy Act, it would be possible for an association to be formed of gentlemen who would be willing to engage in the battle. It would, at any rate, be possible, without any very serious expense, to obtain some definite and reliable legal authority as to the prospect of success.

REVIEWS

PARRISH'S PHARMACY.*

A proficient pharmacist must not only know a good many things, but he must be able to do a great many things in the particularly best manner. He must be what Carlyle calls a man who *cans*. A pocketful of silver medals will not compensate for an awkward manner behind the counter; nor is a chemical genius justified in sending out a mixture in a dirty bottle. Pharmacy requires a more or less familiar acquaintance with various sciences, but it is not itself a science; it is essentially an art. And though that art like every other can become familiar only by long and continuous practice, its attainment may be greatly accelerated by a study of the remarks which observers who have passed through the same course before us have made. The chief treatises of any length which have been written on this subject have been by Dorvault (in French), by Parrish, by Mohr and Redwood, and recently by Proctor. We should advise readers who are chemists and druggists, or who aim to be such, to read with avidity all the books of this character to which they can gain access. They cannot fail to gain suggestions from every page, and even where they disagree with what is written, the mental effort of arguing with the author is one of the best of all possible trainings.

Parrish's "Pharmacy" has been so well known for so long that it is hardly necessary to do more than announce the appearance of a new edition. There is, however, a special importance in this edition, as, in consequence of the lamented death of its original author, another mind has been applied to the editorial supervision of the work. This cannot fail to be of advantage in a case where a practical art is treated, and Mr. Wiegand has evidently worked at his subject with patience and ability.

Parrish's "Pharmacy" aims at being a cyclopædia of the practical requirements of the chemist and druggist. It opens with comments on the fittings and fixtures of the dispensary, the shop, the store room, cellar, &c. All this portion is written as it only could be written by one daily engaged in the business. After treating of the ordinary and also of the less commonly used apparatus required by a pharmacist, the author gives eleven chapters treating of inorganic chemistry in its relation to pharmacy. Nine chapters are given to pharmacy in relation to organic chemistry. The last two parts of the work, on "Pharmacy Proper"—that is, the preparation of tinctures, syrups, &c.—and "Extemporaneous Pharmacy"—that is, mainly dispensing—are by far the most valuable portions of the volume. The pharmacy is of course adapted to the United States Pharmacopœia; but there is little in it which is not as useful to an English as to an American druggist.

Every page of this part of the volume is of value, as the detailed descriptions of all processes could hardly be more minute or direct. The book would perhaps be enhanced in value if its 400 pages of chemistry were condensed to a fourth. It does not profess nor need to teach chemistry, and every pharmacist has his manuals for that subject at hand. But the pharmaceutical hints would be of constant service in every chemist's shop, and especially where apprentices are kept there should be a copy of the work, with the object, which it would seldom fail to accomplish, of putting them on the right track for obtaining that acquaintance with the art and mystery of their chosen calling as should make them afterwards both useful and prosperous.

WORKS ON MATERIA MEDICA.

The publication of the "Additions to the Pharmacopœia" has brought forth quite a harvest of new editions of the standard works on the Materia Medica. The present will therefore be a convenient moment to make a few comments on some of the volumes which lie before us.

First, we may notice the second edition of the abridgment of Pereira's great work, edited by Professors Bentley and Redwood.* In this work, as we have before explained, the editors have used and condensed the valuable information compiled by Pereira, so far as that was adapted to the limits of the present scheme, and have supplemented it with the results of more recent discoveries. Their volume is a massive one, containing over a thousand pages, and is remarkable for the soundness of its information on chemical, therapeutic, and botanic subjects. In the case of all important officinal medicines, the reader may depend on a reliable and often a most comprehensive treatise, presenting a condensed statement of our present knowledge of the drug, plant, or chemical. Especially noticeable are the sections descriptive of the adulterations and substitutions frequent in the case of certain drugs, and invariably the comments on the therapeutics of each substance are well compiled. An appendix presents comments on the "Additions to the Pharmacopœia." Naturally these are not severely critical. The remarks, however, are useful, and present very fully a summary of what we have had taught us pharmaceutically within the past few months. The shop element might usefully be extended in such a work as this, and if the editors would condescend to include among their ideas of "such other remedies as medical men are in the habit of using," information concerning popular medicines, such as chlorodyne, Parrish's food, and some other of the guerilla forces of the Materia Medica, they would only be following the eminent example of Dr. Paris, the prince of pharmacologists, and they would largely increase the usefulness of their manual.

A fourth edition of Garrod's "Materia Medica" has appeared under the supervision of the author, but under the editorial care of Dr. E. Buchanan Baxter.†

Garrod's "Materia Medica" has long held a high and well-deserved reputation, especially in respect to its therapeutic

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[*] *A Treatise on Pharmacy*, by Edward Parrish. Fourth edition. Enlarged and revised by Mr. S. Wiegand. 280 illustrations. Philadelphia: Henry C. Lea. London: Baillière, Tindal & Cox.

[*] Dr. Pereira's *Elements of Materia Medica and Therapeutics.* Abridged edition by Robert Bentley, F.L.S., &c., and Theophilus Redwood, Ph.D., F.C.S., &c. London: Churchill.

[†] *Essentials of Materia Medica and Therapeutics.* By Alfred Baring Garrod, M.D., F.R.S. Fourth edition. Revised and edited under the supervision of the author by E. Buchanan Baxter, M.D. London: Longmans.

sections. This department is especially well cared for in this edition: and for short careful essays on the value of the various medicines in the purposes for which they are employed, Dr. Garrod's work may still challenge comparison with any rival book. The articles on ether and on the cinchona alkaloids, for instance, are models of condensed information. There are a few medicines, as, for instance, *calcis hypophosphis* and *tincture of arnica*, which are condemned as worthless, on, as we think, insufficient evidence. The sections on adulterations are not nearly so complete in this work as in that we have just previously noticed. Dr. Garrod's work includes brief notices of the "Additions to the Pharmacopœia," but does not comment on these. The beautiful printing of this work is particularly noticeable.

A new edition of Thompson's "Conspectus" edited by Dr. Birkett,* is very welcome. Many readers have doubtless been familiar with this useful little companion from their earliest days. It gives in a small space and in a condensed style just such information on each substance as is often wanted suddenly, both by prescribers and dispensers. We have the scientific name and source, the chemical composition, the properties, the operation, and the medical uses of each drug under consideration. Its dose, tests for its purity, and substances incompatible with it are also added, and finally, the officinal preparations of which it forms an ingredient. By means of small type the whole of this matter, with several valuable appendices—one on foreign remedies; one on poisons and their treatment; another on the art of prescribing—is packed into so small a compass that the book easily admits of being carried about in the pocket. It is intended as a companion for prescribers, and serves that purpose well.

Dr. Thorowgood's little work† is exactly what is stated in the preface, a guide for students while attending lectures on the Materia Medica and Preparations of the British Pharmacopœia. It is in fact designed to supplement that work and to enable a medical student to prepare for his examinations. The chemical composition of medicines is explained, as well as the chemistry of the processes by which they are obtained. The therapeutical applications of these pharmacopœial remedies are described at greater length.

The book is divided into three sections—Inorganic Materia Medica, Organic Materia Medica, and the Animal Kingdom, and the various subjects are arranged in a clear and systematic manner. The manual contains exceedingly correct information, though, with reference to Pareira root, the researches of Mr. Hanbury have not been consulted. The author must be his own judge as to the extent of the knowledge required from the students for whom he writes; but we are bound to state that his range is too limited, and his explanations too elementary to be rendered available for the aid of a young pharmacist wishing to pass his Minor or Major Examination. As a student's note-book it is entitled to commendation; but with Squire's admirable compendium on the one hand, and Dr. Garrod's Materia Medica on the other, we cannot see what place it is meant to occupy in educational literature.

PHYSICAL LABORATORIES.‡

A Physical laboratory is a comparatively modern institution; it is only recently that physical science has been treated like chemistry, and the student allowed to learn by performing his own experiments. The success which has attended the laboratory system of teaching is certain to insure a further development of it. Most of the English books on the numerous branches of science which are classed under the title Physics are not adapted to the requirements of the laboratory student: they tell him facts, instead of telling him how to find them. This work is designed to fill up this blank in our scientific literature. It is based on the experience gained by Mr. Pickering during the last four years as Thayer Professor of Physics in the Massachusetts Institute of Technology. The first part of the work treats of the mathematical methods employed in examining the results of quantitative observations. There are two plans described—the Analytical method, by which algebra and the calculus are called into requisition; and the Graphical method, which treats the quantities geometrically. The author considers that the latter method deserves more attention than is usually devoted to it. This introductory portion closes with "Physical measurements," treating of time, weight, length, areas, volumes, angles, and curvature. Under the head of "General Experiments" the author next treats of such subjects as the testing of thermometers, calibration by mercury and by water, making weights, dividing engine, &c. The experiments here and in the remainder of the work are divided into two parts: one describes the apparatus required, and the other explains what the student is to do. The subjects next considered, with which in fact the book is mainly occupied, are the mechanics of solids, liquids, and gases, and sound and light. Without attempting to discuss the manner in which the author has treated this matter, most of which is doubtless uninteresting to our readers, we may mention that many instructive experiments are described in connection with the determination of specific gravity, the application of the microscope, spectroscope, polariscope and saccharimeter, subjects of special importance to the chemist. These experiments are described in a simple and lucid manner, and there are numerous hints suggestive of additional experiments, which, if followed out, will give the student quite enough to do. In an experiment on Mariotte's law, we notice that chloride of lime is mentioned as a desiccating substance; the substance to which we usually apply that term would not be likely to give satisfactory results. A similar inaccuracy occurs in reference to the D line in the solar spectrum, which the author states is due to the soda, instead of to the vapour of sodium. The illustrations are small and indistinct; they may, however, answer the purpose for which they are intended, considering that the student is supposed to have the apparatus before him. The author announces that "the second volume of this work, including heat, electricity, a list of books of reference, and other matters of general interest to the physicist, will be issued at as early a date as possible."

INTRODUCTION TO THE SCIENCE OF HEAT.*

Within a period of five years Mr. Orme's "Introduction to the Science of Heat" has reached its third edition, so that, on the principle of the survival of the fittest, it deserves to be ranked amongst the good scientific manuals. Heat is one of those branches of physics which has long since reached the act or mathematical stage. The student of this subject is usually required to study the laws to which Nature's most potent agent conforms by the aid of mathematical formulæ. The author of this manual, however, has very successfully shown that the first principles of the science are within the reach of those who possess a fair knowledge of arithmetic, and have an ordinary amount of intelligence. The science of heat is so closely associated with chemical science, with which our readers are more immediately concerned, that it appears unreasonable to suppose that the chemical student can truly comprehend his subject without possessing accurate ideas of the nature of heat, its relation to other forces, and to the various forms of matter with which the chemist has to deal. An intelligent chemist, ignorant of the first principles of the science of heat, is surely as great an absurdity as a chemical laboratory from which heat as an agent is excluded. This manual is admirably adapted for the use of the chemical student and others who cannot spare the time required for the study of more exhaustive works. In plain and clear language the author has concisely expounded the elements of the science, and his book has the merit of being interesting as well as useful and instructive.

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* Thompson's *Conspectus*. Edited by Dr. Birkett. London: Longmans.

† *The Student's Guide to Materia Medica*. By John C. Thorowgood, M.D. London: Churchill, New Burlington Street. 1874.

‡ *Elements of Physical Manipulation*, Part 1. By Edward C. Pickering, Thayer Professor of Physics in the Massachusetts Instituto of Technology. London: Macmillan & Co.

* *An Introduction to the Science of Heat*, by Temple Augustus Orme, Teacher of Chemistry and Experimental Physics, University College School. London: Groombridge & Sons.

Literary Notes.

We hear that a new student's work on pharmaceutical chemistry is nearly ready, by Dr. John Muter, of the South London School of Pharmacy.

Besides the Materia Medica works noticed above, another has just come to hand by Dr. C. D. F. Phillips. This volume is confined to the Materia Medica of the vegetable kingdom.

We understand that Messrs. Smith, Elder & Co. have entered into an arrangement with the Principal of the Inland Revenue Laboratory for the preparation of a hand-book on adulterations and the means of their detection in food, drink, and drugs.

An important *Dictionnaire des Falsifications des Aliments et des Medicaments*, by Dr. Soubeiran, has just been published in Paris by Messrs. Bailliere et Fils. We shall take an early opportunity of reviewing this work. We have also received from Messrs. Macmillan & Co. the sixth of their series of "Science Primers," the present one treating on Physiology, and is written by Dr. Michael Foster. It requires a longer notice than we can give it at this moment.

The *Sanitary Record*, a new weekly journal, published by Messrs. Smith, Elder & Co., and edited, we believe, by Mr. Ernest Hart, is likely from its powerful staff of contributors to have a considerable influence in the promotion of sanitary improvements. We shall forgive it a little ultra eagerness to upset every existing condition if it helps to make us more healthy as well as more uncomfortable. But why, oh why, is Dr. Bartlett permitted to extend into half a dozen numbers his somewhat superfluous remarks on the nutritious properties of starchy food?

We have received a pamphlet entitled "Sulphur in Iceland," written by C. Carter Blake, D.Sc., and published by Messrs. E. & F. N. Spon. It aims to show that sulphur can be obtained from Iceland in more abundance and at a greater profit than from any other part of the world, and the statements of some distinguished travellers are quoted to show that the supply in that island is practically inexhaustible. As Iceland is only two day's journey from the North of Scotland, the benefit of this supply is likely to be as beneficial to Great Britain as to any other part of the world, and if on this thousandth anniversary of our fiery little neighbour we can open up new business relations, so much the better for both parties. Dr. Blake seems to write his pamphlet in the interest of a Mr. Lock, who has leased the working of certain of the mines from the Danish government, and who will probably ere long put a limited liability company on the English market.

A pamphlet by Mr. Sydney W. Rich, on the sewage question, develops certain theories in respect to the treatment of sewage by a soluble salt of alumina. The author describes some experiments at the Tottenham Sewage Works, and publishes corroborative testimony from Professor Attfield and the engineer of the works, who coincide in the opinion that sulphate of alumina deodorised the sewage thoroughly enough to bring the effluent water within the limits of purity allowed by the Rivers Pollution Commission. The experiments reported, however, are far too meagre to allow anything like a satisfactory conclusion to be drawn from them. As no evidence whatever is offered respecting the value of the manure extracted, we are compelled to assume that experiments for the object of testing it, if such were made, did not produce very brilliant results. We cannot therefore agree with Mr. Rich that his plan has broken the back of the great sewage difficulty. The second part of his pamphlet is much the most interesting. He describes some ingenious processes for the production of sulphate of alumina from the alum shale of Gainsborough and other districts at a much cheaper rate than is now possible, and ventilates a theory of obtaining the hydrochlorate of alumina as a bye product in the manufacture of sulphate of soda, which is worth the consideration of manufacturers. Mr. Rich shows a considerable acquaintance with the subject, and any practical difficulties which may be in his scheme can possibly be overcome.

The body of Mr. Gumnery, chemist, Kidderminster, was found on July 23 in a churchyard at that town, lying between the graves of his father and mother. A phial of prussic acid was found near him, and a chemist's medicine glass, in which he appeared to have measured a dose of the deadly liquid.

Trade Memoranda.

Trade for the winter seems to promise well. Messrs. Lynch & Co., the other day showed us four foreign orders for chest protectors alone, reaching in all 497 dozens.

Mr. L. Oertling, maker of balances, hydrometers, &c., has removed from Moorgate Street to Turnmill Street, near Farringdon Street Station.

Mr. Smith, chemist and druggist, of Ann Street, Birmingham, whose premises were levelled for the site of the new corporation buildings, is fitting up a splendid shop at 180 Broad Street—the west end of the hardware metropolis.

The partnership hitherto subsisting between J. M. Rendall and F. H. Foster, homœopathic chemists, Plymouth, has been dissolved by mutual consent, and the business for the future will be carried on by Mr. F. H. Foster.

Mr. Hickisson, the proprietor of the Daughter of the late John Bond's Marking Ink, has been appointed agent for our New York contemporary, the *Druggist's Circular*. He will be glad to hear from firms who wish to exploit their products in America.

Messrs. C. E. Perks & Co., of perfume-famed Hitchin have sent us a few samples of their sweet and rich perfumes. Messrs. Perks are to be congratulated on the excellence of their products. They supply them to chemists with glass counter cases.

We have also to acknowledge some cent-fleur bouquet and cent-fleur pomade from Messrs. Whittaker & Grossmith, of Fore Street. These products ought to be successful; they well deserve it.

Mr. William Leaf, the great London merchant, whose death was announced last month, at the age of 85, was in his time one of the most energetic promoters of the interests of homœopathy in this country. He was a personal friend of Hahnemann's, and for many years has spared neither influence, time nor money in his efforts to advance this system of medicine.

The Liverpool Civil Service and Public Supply Association has collapsed, and the Court of Chancery has ordered the official liquidator to declare a dividend, which, it is expected, will be about 5*s.* in the pound. Perhaps Mr. Macdonald, M.P., who "happens to know something about co-operation," will rise to explain how it is that so many of these societies, if not supported by the prestige of Civil Service, come to an untimely end.

According to an advertisement inserted in our last month's issue, Mr. Neave, the manufacturer of Neave's Farinaceous Food, seems to have lately discovered the special value of his food in the case of twins. Mr. Neave has been *singularly* fortunate in his opportunities of testing the value of his food no less than five times, and now fortune has smiled on him in a twinly capacity. The cheerfulness with which Mr. Neave supports his trials is an example to all heads of families, and is the best testimonial, albeit a silent one, to the digestibility of the food on which the little ones are fed.

London Bankruptcy Court.—The case of Poths & Semple, chemists' sundriesmen and importers of chemical apparatus, Bevis Marks, was mentioned to Mr. Registrar Murray on the 22nd ult., under the following circumstances:—The debtors had filed a petition for liquidation, and it was stated that at a meeting held on the 20th inst. a composition of 4*s.* in the pound was proposed. This meeting was adjourned, and the consideration of the debtors' offer postponed, a committee being appointed to investigate their affairs. It seemed that the assets, amounting to 4,380*l.*, consisted chiefly of stock; but prior to the filing of their petition the debtors had executed two bills of sale, and the bill of sale holders had taken possession and were threatening to sell the property. The creditors, however, considered that a forced sale would be extremely prejudicial to their interests, and the Court was asked to appoint a receiver and grant an interim injunction restraining a sale. The bills of sale were not registered, but possession had been taken under them before the presentation of the petition. His Honour appointed Mr. Sydney Smith, accountant, Basinghall Street, receiver, and granted an interim injunction.

Correspondence

PROFESSOR BEDFORD (NEW YORK) ON BRITISH STUDENTS.

NEW YORK: *June* 26, 1874.

IN looking over the replies to the questions on Pharmacy which were received from England in competition for the prize offered in the March number of the CHEMIST AND DRUGGIST, my attention was called to several peculiarities, which have led me to write on the subject, addressing myself more particularly to the competitors. It is a pleasure to state that the penmanship and composition of the replies were excellent. In arithmetic, however, there were many failures, but nine persons answering correctly either the first or second questions.

The greatest trouble was the want of conciseness. One of he sets of replies covered not less than 37 closely-written pages of note paper.

It should be remembered that in an examination one of the main objects which is to be determined is how much a person knows of his subject, and how quickly he can demonstrate that fact in as few words as may be possible.

The following tables give the number of perfect replies given o each question:—

No.		No.	
1	9	13	4
2	9	14	22
3	22	15	9
4	26	16	20
5	7	17	13
6	22	18	6
7	24	19	2
8	10	20	5
9	10	21	8
10	19	22	18
11	22	23	20
12	4		

PRESCRIPTIONS.

No.		No.	
1	3	4	12
2	2	5	12
3	12		

This gives only the number which received the highest mark for perfect replies. Many other replies were good: some were correct as far as given, but the answer was not complete. For example:—Question 19: "How are morphia and its salts distinguishable from quinia and its salts?" But two persons noted the fact that all the salts of morphia in ordinary use are freely soluble in water, while the salts of quinia in general use are scarcely soluble (to any extent) in cold water, and but four of the replies alluded to the fluorescence of solutions of salts of quinia. These are simple tests, easily applied, to determine between these two substances, and all the more important because they can be so readily applied anywhere.

It would be impossible to comment upon the replies to each question, as it would make this letter as tedious as were some of the papers sent me, so I notice but a few of the more prominent.

In reply to question 1 the correct answer should be—

2,071 grains=4 ozs. 321 grains.

Reply to question 2 should give the following figures:—

7,621½ grains=15 ozs. 421 grains, troy,
" " =17 ozs. 183 grains, avoirdupois,
" " =493·86 grammes,

These being based upon the tables given on pages 402–404 of the British Pharmacopœia.

These questions, as given originally to the students in the College of Pharmacy of this city, required a different answer, as the fluid ounce of the United States Pharmacopœia has 455·7 grains, while the British Pharmacopœia gives 437·5 grains equivalent of the fluid ounce.

I can only intrude upon the valuable space of THE CHEMIST AND DRUGGIST to note further the replies to the prescriptions under question 24.

These, as given, were copies of "originals" which were sent to be prepared.

A great many of the replies criticised the Latin, but overlooked the salient point of the questions.

By a misprint, the first prescription had the quantity of powdered opium imperfectly given: it should have read ℈j. This would give a dose of "two grains every hour for the child," and the probabilities are that but few such doses would put the child beyond the reach of human aid.

In the case of such a prescription, we should here deem it the duty of the dispenser to communicate at once with the physician, politely requesting him to revise the prescription. He should never put up a prescription when the directions attached show conclusively that an error has been made, or that life will be risked in taking it as ordered, and his first duty is to see or communicate with the physician.

Most of the replies indicate that the prescription would be dispensed by substituting one grain of powdered opium. Under the circumstances, even this should not be done, as even one-tenth of a grain might be a dangerous dose, as the age of the child is not supposed to be known. This prescription should not be dispensed without consulting the writer of it.

In the second prescription, the quantity of strychnia is obviously incorrect: the quantity should have been one grain. The prescription went to a store where the physician was intimately acquainted, and the same prescription frequently sent; they therefore, knowing what was intended, substituted one grain of strychnia for the quantity erroneously ordered. Liquor strychniæ is not officinal in the United States Pharmacopœia, but it is easy to see how the competitors should suppose that this preparation might have been the article intended. Another point about this prescription is the method of compounding it. But two of the competitors noticed the reaction which occurs when nitric acid and sulphate of iron are mixed, or gave the proper method of preparing this formula. This formula, omitting the strychnia, is a favourite with many medical men here, and has a "local" name of Liq. Ferri Oxy-Sulph., not a very correct one, but, having been current under that title for some time, it is not easy to introduce another and more correct one for it. In preparing this formula the sulph. iron, coarsely powdered, is rubbed in a mortar with the nitric acid until fumes cease to be given off, when the water is added. If the strychnia is prescribed in combination with it, the crystals will readily dissolve in the solution by trituration.

In the third prescription it is likely that some of the competitors will find it more difficult to dispense it in drops than to find a flaw in its Latin.

In preparing the emulsion of cod-liver oil, several good formulæ were given, but it is doubtful whether a saponaceous emulsion is admissable when a physician orders it simply to be formed into an emulsion.

The last prescription requires, to obtain a smooth ointment, that the extract of belladonna should be rubbed down with a few drops of glycerine, the ointment then incorporated; after which it should be put into a wide-mouth bottle, which can be tightly stopped, enough heat added to soften it (not melt it), and lastly, add the camphor dissolved in the chloroform, and mix by shaking the bottle.

Time and space will not permit further comment, but if agreeable I may give some further exercises for those who choose to try them.

Yours truly,
P. W. BEDFORD.

Professor Bedford has sent us the following table analysing the answers sent in to his series of pharmaceutical questions. It is to be understood that of the questions 1, 3, 5, 6, 10, 11, 14, 16, 19, 22, 23, and each of the prescriptions, the highest attainable number of marks was 5; of the remaining questions, 10. This month we announce another prize offered by the same gentleman.

Names of Competitors	NO. OF QUESTION																												Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
																								A	B	C	D	E	
J. B. L. Mackay, Inverness (15 pp.) ...	5	10	5	5	7	5	10	10	10	5	5	8	10	5	9	5	10	8	4	10	10	5	5	5	2	5	5	5	188
C. A. Smith. Leeds (28½ pp.)	5	6	5	5	10	5	10	10	10	5	5	9	10	5	8	5	9	9	4	10	10	5	5	4	5	5	5	0	184
John Abernethy, Belfast (10½ pp.)... ...	5	10	5	5	10	5	10	9	10	5	5	10	8	5	8	5	10	10	4	8	5	5	5	2	3	5	5	5	182
H. J. Jackson, Bridlington Quay (8½ pp.)	5	10	5	5	9	5	10	9	10	5	5	10	8	5	8	4	6	9	4	9	9	5	5	0	3	5	5	5	178
Joseph Walker, Longton, Staffordshire (12 pp.)	5	0	5	5	10	5	10	10	9	5	5	9	8	5	10	5	10	8	4	9	10	5	4	4	4	5	4	5	178
Arthur Weddell, Winchester (8 pp.) ...	0	10	5	5	10	5	10	10	10	5	5	8	8	5	10	5	10	9	4	9	9	5	5	2	4	0	5	5	178
W. H. Sillingworth, Halifax (38 pp.) ...	0	8	5	5	10	5	10	10	9	5	5	10	10	5	10	5	9	10	3	9	8	5	5	4	5	0	4	3	177
D. L. Anderson. Belfast, Ireland (14 pp.)	3	10	5	5	8	5	10	9	9	4	5	9	...	5	10	5	10	9	5	9	10	5	5	3	3	5	5	5	176
No address (8 foolscap pp.)	5	10	5	5	9	4	10	9	10	5	5	8	10	5	8	5	10	10	4	9	10	5	5	3	3	0	1	2	176
A. E. Ekins, South Norwood, S.E. (8 letter pp.)	1	6	5	5	8	5	10	9	9	5	5	8	4	5	10	5	10	9	4	10	10	5	3	5	0	5	5	5	171
F. Froedman. Dublin, Ireland (27 pp.) ...	2	3	5	5	8	5	10	10	10	5	5	9	6	5	7	5	10	10	4	9	10	5	5	4	0	0	5	5	167
"Anima causa." A. J. C. (5½ pp.)	1	7	5	5	6	5	10	7	8	5	5	7	7	5	10	5	8	10	4	10	10	5	5	0	3	5	3	3	164
Thos. Griffin, Brighton (7 pp.)	3	0	5	5	10	5	10	9	9	5	5	8	3	5	10	5	7	8	3	8	8	5	5	4	2	5	5	5	162
Wm. Egerton Starling, Tunbridge Wells, Kent (15 pp.)	3	3	5	5	8	5	10	7	10	5	5	8	5	5	10	5	10	5	2	9	5	5	5	2	2	5	5	4	158
W. A. Wilson, 367 Moseley Road, Birmingham (9 pp.)	0	10	5	5	10	5	10	10	10	5	5	6	6	5	8	4	9	5	5	9	9	5	5	3	0	0	4	4	162
"Labor omnia vincit," G. C. Druce (14½ pp.)	0	0	5	5	9	5	7	10	9	5	5	10	4	5	8	5	10	10	3	9	8	5	5	0	0	5	5	5	157
Arthur Pearson Luff, South Kensington, London (10 pp.)	0	3	4	5	7	3	10	9	9	5	5	3	9	5	10	5	10	8	4	10	10	5	5	0	3	0	1	1	149
C. E. Landon, 53 Broad Street, Worcester (6 pp.)	5	2	5	5	6	5	10	7	8	5	5	5	4	5	4	5	8	7	4	7	8	3	4	2	3	2	4	5	143
Joseph Hutchinson, West Hartlepool, Durham (8 letter pp.)	0	3	4	5	4	5	10	6	7	4	3	7	9	5	6	5	10	7	4	8	5	5	5	4	2	5	0	4	142
Wm. Adams, Barnstaple, Devonshire (5 letter pp.)...	0	10	...	5	6	5	10	10	10	5	5	7	3	4	3	6	2	6	0	5	8	2	3	2	2	0	3	3	130
F. R. J., Mansfield, Nottinghamshire (8 pp.)	5	6	5	5	5	4	10	3	7	3	3	9	6	5	5	5	6	6	2	6	5	4	4	0	3	0	3	3	128
Wm. Read. Havant (4 pp.)	0	3	5	0	5	5	10	9	9	4	4	5	3	3	6	4	5	5	2	7	6	3	5	0	3	0	2	1	111
Colin Campbell, Glasgow (6 pp.)	5	10	5	5	7	5	10	9	7	3	5	8	...	...	2	3	...	2	3	6	9	4	4	...	...	0	4	2	118
Willoughby Clarke, 124 High Street, Whitechapel, London, E. (4 letter pp.)	0	0	5	5	6	5	10	5	5	0	5	5	2	4	5	5	10	...	3	5	...	2	5	5	2	5	5	4	113
E. J. H. Thring, Gordon Square, London (4 pp.)	0	0	0	5	5	2	5	5	6	5	5	4	1	5	6	5	6	6	...	6	3	4	4	2	2	0	3	5	103
G. D. Gowing, Faversham, Kent (5½ letter pp.)	0	0	4	5	0	5	0	2	2	3	3	5	2	4	3	...	2	5	0	8	7	2	5	0	0	0	2	2	71
George Dove, Sherburn, South Milford, Yorkshire (5 pp.)...	0	...	0	5	5	1	10	3	4	2	4	5	2	3	2	0	4	4	0	2	4	0	3	2	2	0	3	0	70
Total marks by Competitors	58	140	122	130	198	124	255	216	226	118	127	200	148	123	199	118	211	195	83	216	206	114	124	62	61	67	101	95	4037

THE REPORT OF THE ADULTERATION COMMITTEE.

AFTER a tolerably searching examination of fifty-seven witnesses, comprising the representatives of medicine, chemistry, commerce, and trade, the select committee appointed to enquire into the working of the Adulteration Act have issued their report. They set out by expressing the exceedingly safe opinion, that while the Act has done much good, its blessings have been alloyed with a considerable amount of evil, this latter result being ascribed to three causes—the want of a clear definition of adulteration; the incompetence of the analysts; and the shortcomings of the Act itself.

Tea, being the chief bone of contention, occupies the foremost place in the report; though, for all the advantages likely to accrue from the recommendation of the committee, we consider the subject had been far better omitted. If the question as to what does and what does not constitute an adulteration of tea was doubtful before, it certainly admits of no solution whatever now. "Facing tea," we are told, "after the duty is paid, was, prior to the Act of 1872, practised to a small extent in this country; but whether in China or at home the evidence is conclusive that in colouring tea no deleterious matter is used to such an extent as to be absolutely injurious to health: at the same time facing may be employed to conceal tea of a bad quality. While condemning the practice of highly facing tea, your committee cannot recommend that fairly faced green tea should be condemned as an adulterated article." It might have been supposed that before proceeding with their damnatory and absolution clauses, the committee would have enlightened us as to what is "high" and what "fair" facing. It might have been hoped that the Queen's Bench decision had closed the question once for all—facing of any kind being looked upon as an adulteration; but the report before us overturns that construction of the Act, and paves the way for a positively endless series of legal squabbles. For my own part, I entirely agree with Dr. Hassall in considering that the application of Prussian blue, indigo, steatite, or any facing whatever, whether applied in England or elsewhere, is in effect a direct fraud upon the consumer, and as such should be vigorously put down.

No one supposes that a few traces, more or less, of ferrocyanide of iron or silicate of magnesium will be "absolutely injurious to health;" but why does the "Heathen Chinee" put himself to the trouble of rolling his leaves in pigments and making them smooth and glossy? Not, we may be sure, because he is going to drink the inky, shiny infusion himself, but for the reason that he knows he can in that way vamp up the old and worthless pickings, and transform a few tons of decayed rubbish into "fine young hyson." The public, it is sometimes urged (though we fail to understand why that body should be so constitutionally stupid), prefer the bright green tint of the coloured leaf to the dull olive hue of the pure tea. Supposing that such is the case (which is more than doubtful), surely the Government need not wink at a fraud in order to pamper a vitiated taste. Why do we prosecute the baker for putting a few grains of alum into his 4-lb. loaf? Not because we are afraid of being poisoned with a little phosphate of aluminium, but because its presence tells us that he has by its aid worked up an inferior flour, which has undergone partial decomposition, into fine white bread, and consequently cheated both our pocket and our stomach. The facing of tea is a directly parallel case, and it is earnestly to be hoped that the legislature in amending the Act will class it as an unmistakable adulteration. It is certain that if this were done, and John Chinaman given to understand that he could no longer palm off his rubbish upon English dealers, there would soon be an end to this species of sophistication.

It is satisfactory to find that the committee endorse the suggestion so universally made of an official examination of all tea in bond. It is the only means of arresting adulteration at its fountain-head, and securing immunity to the honest retailers from prosecution for an offence of which he is wholly innocent.

Next to tea the committee take up the subject of milk, which they consider has improved in quality wherever the Act has been enforced, though the good results have been marred by some serious cases of injustice to milk-sellers. There is no doubt, as the report states, that milk is liable to *some* natural variation, and that occasionally it may have happened that the analyst has adopted too "high and rigid a standard." We fancy, however, that Mr. Alfred Wanklyn and other chemists who have had experience in milk analysis, will be rather startled to learn that in certain cases it is difficult for a dairyman to produce a milk with 10 *per cent. of solids.* Mr. Wanklyn affirmed that "cow's milk does not contain less than 11·5 per cent. of solids," and the observations of Müller and others confirm the statement. All we can say is that if the 10 per cent. comes to be recognised by magistrates as a not impossible minimum, milk dealers will not be slow to take advantage of a decision which will allow them another 10 or 15 per cent. of water. Everyone will approve the recommendation of the committee that the abstraction of cream should be considered punishable; as it is, this fraud may be perpetrated with impunity.

With regard to butter, the report has little to say, and that not to the purpose. The committee "see no reason to forbid the sale" of artificial butter, if composed of wholesome materials and not sold as butter. "Thank you for nothing," says the dealer in fat compounds.

On the subject of "mixtures" the retailer is left *in statu quo*; that is to say, he is at liberty to sell a "mustard" condiment containing an ounce of the genuine flour in a hundredweight, provided he labels it as a "mixture." The committee have very sensibly come to the conclusion that a verbal declaration by the vendor in addition to the label "is impracticable, and if practicable would be unnecessary."

Notwithstanding his tremendous onslaught upon "corn-flour," the committee have thrown Dr. Bartlett's evidence overboard, being "fully convinced," as everybody knew before, that there is a part for even starch to play in the dietetic world.

Between the two stools of the Licensing and Adulteration Acts the committee fear that the analysis of alcoholic drinks has come to the ground. Possibly the paucity of wine and beer prosecutions may be ascribed to a different cause. The fact is, chemistry has hardly kept pace with the demand for getting drunk quickly and cheaply, and the ingenuity of the publican has somewhat baffled the skill of the analyst. The time will come, however, when we shall be able to demonstrate the presence of picric acid and picrotoxin as easily and unmistakably as we can that of lead in water or copper in treacle.

These are the only articles upon which the committee offer any remarks. They have discreetly abstained from committing themselves by expressing an opinion upon the subject of drugs; and it is just possible that the bold suggestion of Mr. Sandford that the Act should ignore drugs altogether may by-and-by bear good fruit.

The second part of the report deals with the appointment and qualifications of analysts, which may be left for future consideration.

F. W. Fletcher, F.C.S.

PHYSIC IN THE SEVENTEENTH CENTURY.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Sir,—A short time since I came across an old work on medicine—"A Guide to the Practical Physician," published in 1684 by Theophilus Bourt, M.D., a man much thought of in his day and a shining light in his profession. As some of his ideas on disease and their treatment are peculiar, and differ from those of the present time, I have ventured to transcribe a few of them, thinking that they may prove not uninteresting, and perchance amusing to some of your numerous readers.

When it is borne in mind that the work alluded to was published less than two hundred years ago, it is an obvious and satisfactorily striking fact that since that time the Scientia Medicinæ has advanced with giant strides, far surpassing its rate of progress from the time of Galen, fourteen hundred years before this book was compiled.

I will commence by divulging for the reader's edification what Dr. Bourt is pleased to term as "singular secret" for the cure of quinsey. "If the swelling in the neck will not soften (!) burn an owl in an open pot to powder, a little of which you may blow into the throat, when the swelling will soften to admiration and break." "A purple thread with which a viper has been strangled" is also highly recommended, but, unfortunately for posterity, he omits to state what is to be done with it, hence this discovery, doubtless a valuable one, cannot be turned to account.

He mentions the case of an unfortunate young man who was the victim of melancholy superadded to quinsey, but whether consequent on that or on the anticipation of the medical treatment we are not enlightened; he was, however, cured by a plaster on the head and "an issue in each leg to conquer the melancholick humours." A somewhat singular cure for melancholy, but satisfactory in its result.

The thrush is still prevalent among children. "It is an approved remedy, especially when it is malignant and epidemick, to hold a living frog in the child's mouth, that it may draw out the malignity, which, when it is weary and dead, hold another, and so on." For how long this treatment is to be pursued, or how many frogs are to be immolated, is not mentioned, but this might have been an intentional oversight on the doctor's part, that no blame might be attached to the remedy, but only to the non-persistence in the application of it. I should almost fancy that in his childhood he had been subject to the thrush and to the frog, for he adds:—"This is a filthy remedy."

"When any one complains that he never comes to his meat with an appetite, it is advisable to make him fast till he have a stomach, for starving breeds appetite." There is a wholesome truth for pampered epicures! Complain no more of loss of appetite, but adopt the remedy!

Speaking of depraved or too great appetite, he says:—"Antiquity found not a more perfect remedy for this eating evil than bread and the smell thereof." Here our ancestors had the better of us; for though it is well known to professional men that bread, when eaten, will arrest hunger, it is certainly a wrinkle to learn that the *smell* thereof will answer the like purpose. This information might be of service to some of our parochial authorities, but I would suggest, as the secret is of some age and may have lost power by keeping, that any board of guardians feeling inclined to economise in this way should experiment on themselves before bringing the diet into general use.

Should this regimen be productive of gout, "take of pure spring water 10 lbs., the wood of the mastick tree 3 ozs., let them boil, and drink of this water at dinner and supper time;" or, if this fail, a "cabbage diet" may perchance prove beneficial, for it is strongly recommended by several physicians of that period.

"Should anything get into the ear, let a live lizzard, or one but newly dead, be applied with his head to the ear and bound there for three hours. You will find the thing, whatever it be, sticking to the lizzard's head when you remove it." This, however, does not answer with "fleas," for we are told:—"When one has a flea in his ear a little ball of dog's hair must be applied, and the flea will presently creep into the hair, out of the sympathy which it hath with dogs."

An ointment of green frogs is very good for cancer, also the broth of craw-fish, boiled in asses' milk, drunk five days successively, and this course repeated seven times. "The head of a puppy a month old, dried, powdered, and mixed with honey, and laid on an ulcerous cancer is said to kill it." Not a bad way of disposing of "young puppies!" For the relief of headache I do not know but that the remedy is worse than the disease:—"A young man had conflicted with a violent headache, and he was cured by boring his skull five times, only his head (the membranes being cooled and thickened by opening) was a *little dull*." Surely, considering the violence of the headache *and the remedy*, this was hardly to be wondered at. Another patient, a woman, was "racked with a bitter pain, creeping, with a manifest sense of heat, sometimes from her foot to her head, and sometimes from her head to her great toe, into which, when it was come down, a cupping-glass was clapt to it, to get out that volatile spirit which daily ranged the whole body with so swift a course." We have heard of evil spirits being exorcised, but never before, I think, of their being caught in cupping-glasses. Dr. Bourt, however, caught the "volatile spirit," and cured the woman.

Cholera was cured, "to the great admiration of all men," by giving "four scruples of blood-stone in pomegranate wine," and apoplexy "by holding frequently in the mouth a piece of roasted nutmeg, for this corrects the cold temperament of the brain!"

Now, I daresay but few of your readers know the real cause of toothache. "The teeth ache because of a flatulent spirit enclosed about the roots of them." For this evil, "take the leg or thigh of a toad, cleanse it from the flesh, rub the aching teeth with the bone, and the pain ceases in a moment," or, if it is preferred to have the tooth removed, no dentist need be consulted. "A tooth taken from a dead man's jaws, if you touch a rotten tooth often with the roots of it, will cause the tooth to fall out piecemeal in a few days." This is something like "painless extraction."

Those subject to fits are informed that "the skin of a wolf, taken off that part which sticks to the spine, made into a girdle about two inches wide, and wound round the loins is beneficial;" and "a certain illustrious lady testifies that, upon the most sure experiment of a certain widow, the falling sickness is cured by a powder made of quails' eggs, taken in two-scruple doses." So recommended, who can doubt its efficacy. Here is a caution to fevered nobility:—"A nobleman being taken with a violent burning fever, asked an old woman that was by to bring him a pail full of cold water, into which he dipped his hands, and, when he found that the raging of the heat was allayed and extinguished by it, he held them in longer; at length, when he drew them out, a livid blackness had disfigured both of them, with privation of sense." The hydropathic treatment was too many for him—he died, leaving the memory of his untimely fate to act as a warning to posterity.

All diseases appear to have been originally attributed to the agency of evil spirits (which hypothesis the metaphor of Holy Writ tends to support) and the vanquishing of these spirits was the work of the chirurgeon of early times; hence the amulets, exorcisms, &c., prescribed by ancient writers. As education advanced, this idea gradually lost ground, and disease came to be regarded as an infliction of Divine Power, and to be assuaged by human remedies, but we find Dr. Bourt, in the seventeenth century, holding opinions little removed from those of Hippocrates, for he says:—"We must know that there are three sorts of diseases which are held to come from witchcraft. The first is in no way witchcraft, but when the devil observes any one will be taken with a disease, as he is well skilled in natural things, he persuades witches and wizzards that if they will but do what he orders them the man will fall into such a disease, into which, notwithstanding, he would have fallen had the witches done no such thing, and in the meantime the witches think the disease was caused by them. Secondly, there are other diseases which, indeed, are not caused by the devil, but by natural causes, while he changes the natural constitutions and corrupts and alters the humours. Thirdly, there are diseases which are simply caused by the devil without the mediation of natural humours. As for the first sort of these diseases, it is most manifest and without doubt that it may be cured by natural remedies, but the third cannot be cured by natural remedies, because natural things can have no influence upon the devil, who is a spirit." He substitutes one potent devil for the several minor and special powers, and, though he believes in witchcraft, he does not attempt to deal with it, for the reason he assigns. One finds in his writings, however, less of superstition than credulity. Because a patient, under a course of stewed cockroaches, gets well, he takes the credit of the cure for his concoction, not allowing anything to nature and other kindred influences at work. His error was that too common one of confounding coincidences with necessary consequences—

> If the patient died, he said 'twas Nature did it;
> If the patient lived, the doctor took the credit.

I have quoted but a few out of many hundreds of prescriptions and cases given by Dr. Bourt, having merely selected those which I thought would amuse, and, at the same time, illustrate the difference between the medicine of our day and that of two hundred years ago.

I am, sir, yours obediently,
EDWIN P. WRIGHT.,

37 Golborne Road,
Upper Westbourne Park, London, W.,
July 31, 1874.

EXCHANGE COLUMN.

Revised Terms.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of the Chemist and Druggist, and all correspondence relating to it must be addressed to the "Publisher of the Chemist and Druggist, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

A six-syrup ice-cream soda apparatus. 20/238.

Two Latin Grammars one English, Arithmetic, "Cæsar," Giles' "Key;" the lot 6*s.* Alpha, 38 Corn Market, Derby.

Bell-shaped bell-metal mortar and pestle, almost new; weight 97½ lbs. Cost 8*l.* 10*s.* D. S. Anderson, Forfar.

Good fly papers, 12*s.* 1,000; sample bottle Leeming's essence, 15 stamps. Fortune, Anstruther.

Handsome chemist's lamp with plain iron bracket. Offers wanted. Fry, Chemist, Taunton.

Two 4-gallon pear-shaped carboys; also, small upright case. Insull, Chemist, Hanley, Potteries.

A valuable collection of prescriptions, as given in the "Minor." Price 2*s.* 6*d.* 33/238

Wenham Lake Ice Company's Refrigerator, No. 2. Nearly new. Offers wanted. 26/238.

Gray's "Anatomy," 16*s.*; Guy's "Forensic Medicine," 4*s.* 6*d.*; Churchill's "Diseases of Children," 4*s.* 6*d.* 36/237.

Mahogany window or counter stand. New. (Fig. 85 Maw's). 1*l.* Apply to Downes, 101 Church Street, Edgware Road.

Barber's "Pocket Companion." Latest edition. With map. Passmore, 8 Brondesbury Street, Kilburn, London.

New morocco-covered book, with lock and key. Ruled for chemists' recipes, 5*s.* Minett, 24 Sloane Street.

Complete set of books for Preliminary, 5*s.* M., care of Mr. J. Tully, jun., Chemist, East Grinstead.

1 pair hollow blue-tinted eye preservers in snap case—have not been used. Retail, 10*s.* 6*d.* What offers? 4/239.

One of Tully's manuscript note-books (chemistry) for the Minor, 7*s.* 6*d.*; also collection of questions, 3*s.* 6*d.*; and prescriptions, 1*s.* Manuscript, *Gazette* Office, East Grinstead.

Dr. Buchan's "Domestic Medicine," 2*s.* 6*d.*, and many medical works. Stamp for list. Medicus, Glen Vue Works, East Grinstead.

Bentham's "British Flora," 1,295 original drawings, 2 vols., octavo, cloth, perfectly new, uncut, 31*s.* 6*d.* (published, 3*l.* 10*s.*), last edition. 15/238.

To be exchanged or sold, a large handsome outside lamp, with solid glass lens and bracket, nearly new. Apply to F. G., 28 Great Smith Street, Westminster.

"Pharmaceutical Journal," posted on Monday. Also Vols. 1 and 3, 4th series. What offers? Jenner, Bury St. Edmunds.

Preliminary books:—Latin Dictionary, 2*s.* 6*d.*; Giles' "Key," 1*s.* 6*d.*; Valpy's "Grammar," 1*s.* 6*d.*; and several others. Campling, Wood Hill, Northampton.

Fifty numbers "Pharmaceutical Journal," 1873, unbound; 30 ditto, 1874. Price for them. S. P., 34 Cordingly Street, Otley Road, Bradford.

An Evans & Lescher's Materia Medica Cabinet; cost 63*s.*, take 35*s.*; also, a Southall's, cost 25*s.*; take 10*s.* W. S. Budworth, Infirmary, Bolton-le-Moors.

Cabinet of Materia Medica, specimens and herbarium (Evans Lescher & Evans'), cost 3*l.*; equal to new. Proctor's "Practical Pharmacy," scarcely soiled. What offers? G. P. Gilder's, 8 Osborne Place, Blackheath, S.E.

Two 2-gallon glass-stoppered carboys; 6 glass-stoppered labelled bottles, measure 3 pints; 6 half-gallon blue-labelled, not stoppered. Offers wanted for the whole or separately. Address H. D., 9 Victoria Terrace, Northam Road, Southampton.

Groves' battery, 6 cells, brass connecting screws, thick platinum plates, 6 inches by 3 inches, only been used once; cost 5*l.* 18*s.*, for 3*l.* 18*s.* cash; brass cylinder air pump (minus bell) on mahogany stand (25*s.*) for 10*s.* Carriage paid. H. Halstead, Rawtenstall.

Todd's "Cyclopædia of Anatomy and Physiology," thousands of engravings, 6 vols., 5*l.*; Copland's "Dictionary of Practical Medicine, 3*l.* 10*s.*; Bell's "Anatomy and Physiology of Expression," new, 35*s.*; Sykes' hydrometer, with book, &c., new. 50*s.* (cost 4*l.* 4*s.*). D., 161 Seven Sisters' Road, London, N.

Printing press, with type, rollers, circles, &c., in complete working order. Cost about 30*l.*, and repaid its cost in a few months. Specimens of work forwarded for one stamp. Also a superior 14-stop harmonium by Cramer, with knee swells, &c. Good as new. Offers wanted. Day, Beckenham.

Exchange for drugs or saleable patents of same value:—Mahogany ebonised bent plate-glass case, 8 feet long, in one plate, 15 inches wide, 10 inches high; Maw's fig. 104; also a quantity of Epps' homœopathic preparations in 6*d.* and 1*s.* cases (about 400). Parkes, 254 Manchester Road, Bradford.

Mahogany bent-glass counter case, silvered glass back to open; with two trays, sloping and flat shelves, with tablet; length 3 feet, width 22 inches, 5*l*; mahogany bent-glass counter case; length 34 inches, width 18 inches, 3*l.* 10*s.* Baily, Chemist, 105 Regent's Park Road, Primrose Hill, W.

Sir Wm. Hooker's "British Flora;" Vol., "Flowering Plants and Ferns," interleaved, and with numerous notes and illustrations appended by a painstaking botanist, 21*s.*; botanical microscope, 7*s.* 6*d.*; small wooden printing press with three or four pounds of type, 12*s.* Saleable patents taken in exchange. B. B. M., at Cubit & Sons', 17 Market Place, Norwich.

Two mahogany show stands, as Maw's Fig. 55, in first-class condition, 4*l.* 10*s.*; four handsome metal window brackets, 1*l.* 12*s.*; four 2-gallon carboys, 16*s.*; 9 pill tiles, 8 × 8, 7*s.*; 16 ditto, 6 × 6, 7*s.*; 14 ditto, 5 × 5, 6*s.*; photographic apparatus, ¼-plate, first-class and complete with chemicals, &c., packed, 4*l.* Mr. Macdonald, Chemist, Newington, Edinburgh.

Vial corks, part slightly soiled by dust at docks, large quantity to be sold cheap, 4½*d.* and 5*d.* gross; genuine bees' wax, few lbs. colour deteriorated by age, 1*s.* 4*d.*; about 14 lbs. gelatine, good quality but coarse cut, 2*s.* 6*d.* lb.; quantity des. sarzd. co. conc. from first-class London houses, very excellent quality, great density and good condition, 3*s.* 6*d.* lb., or offers. Samples of corks, wax, or gelatine, 2*d.* stamps. Merchant, 60 Silchester Road, Notting Hill, London, W.

Carriage paid to London. Maclise's "Surgical Anatomy," 35 fine plates, 30*s.*; "Pharmacopœia Londinensis," 1851, 3*s.*; "Acton on Venereal Diseases," 2 vols., atlas, coloured plates, 15*s.*; Arnott's "Physics," 2 vols., 10*s.* (published 31*s.* 6*d.*); Vogel's "Pathological, Anatomy," "Celsus," Blakeston's "Chest Diseases," Andral's "Pathological Anatomy," Askwell's "Diseases Women," Gregory's "Outlines Chemistry," Works on Hydropathy and Homœopathy; Copland's "Medicines," parts 1 to 13 (part 2 wanting), 10*s.* 6*d.*, published 3*l.* 7*s.* 6*d.*; Bourgery's "Minor Surgery," 3*s.* 6*d.* Chemist, Church Street, Hadleigh, Suffolk.

Twenty ½-gallon upright black stock bottles, japan caps, new gold labels, 18*s.* dozen; 18 1-gallon ditto, 28*s.* dozen; 32 1-gallon carboy-shape ditto, 28*s.* dozen; 80 32-oz. gold-labelled shop bottles, 13*s.* dozen; 50 20-oz. ditto, 9*s.* dozen; 60 8-oz. ditto, 7*s.* dozen; 48 4-lb. lilac shop jars, new gold labels, 36*s.* dozen; 2-lb. ditto, 20*s.* dozen; ½-lb. ditto, 9*s.* dozen; 5 2-gallon pear-shape carboys, 5*s.* each; 2 3-gallon, 2 4-gallon upright show bottles, 8*s.* and 12*s.* each; bent plate-glass show case, Maw's fig. 16, 3 feet 9 inches long, 8 inches high, 8 inches wide, 85*s.*; 10 feet nest, mahogany, gold-labelled shop drawers, with lockers under, 115*s.*; 2 6-feet nests mahogany gold-labelled shop drawers, with glass knobs, 9*l.* 10*s.*; 12 feet long mahogany wall case, glazed folding doors, with cupboards under, 15*l.* 10*s.*; 7 feet long mahogany wall case, 5 feet high, as Treble's No. 123, 6*l.* 10*s.*; 2 feet long mahogany show case, Maw's fig. 41. 45*s.*; new upright show case, as Treble's 67, 2 feet 2 inches long, 1 foot 11 inches high, 50*s.*; 3 feet long, as 67 Treble's, 32*s.*; 1 ditto, similar to Treble's 74, 52*s.*; 2-dozen 5-grain pill machine, 14*s.*; 20 new composition mortars and pestles, No. 4, 5, 6, 10, 12, price 2*s.* 5*d.*, 3*s.*, 3*s.* 5*d.*, 8*s.* 6*d.*, 11*s.* 6*d.* each. Lloyd Rayner, 309 New North Road, Islington, London.

WANTED.

A bell-metal mortar and pestle. 22/238.

Hyoscyamus and Conium. A good price given for small specimens. Medicus, New Ferry, Birkenhead.

An oil cistern, with tap, to hold between 30 and 40 gallons ol. olivæ. Chemist, 128 High Street, Sittingbourne.

Griffin's "Chemical Handicraft." State price and condition. H. Halstead, Rawtenstall.

Attfield's "Chemistry" (last edition); Bentley's "Botany." William Caven, Hillside, Dalbeattie.

Recent veterinary works, dissecting instruments; and microscope, suitable for student just commencing. 12/238.

A second-hand cottage pianoforte for a learner. Address, T. B., Post Office, Padstow, Cornwall.

Barnard Proctor's "Lectures on Practical Pharmacy." Charles Crook, Mirfield.

One half-gallon tincture press. Second-hand. Send price and particulars to James Savage, Lister Hill, Bradford, Yorkshire.

An upright glass case for end counter, length 6 feet: also glass case for side of shop. Address, with particulars, to J. Fryer, Chemist, Batley Carr. Dewsbury, Yorkshire.

Books and specimens, &c., suitable for the Minor examination. State particulars to George H. Lodge, Masbro' Bridge, Rotherham.

A second-hand press, good size, suitable for pressing dandelion roots. Address B., care of Newbery & Sons, 37 Newgate Street, London.

One case of No. 7 best Scotch petroleum chimneys and one case of bell-topped chimneys. No. 7, first quality. John Hirst, Mold Green, Huddersfield.

A nest of drawers, 8 feet 14 inches by 2 feet 10 inches, without lockers, if with lockers, 8 feet 14 inches by 4 feet 6 inches, labelled; 1 doz. blue-plug stoppered syrup bottles; 1 doz. lozenge jars, glass. Foss, Broadway, Worcester.

Wall glass case, 6 ft. 10 in. long. 3 ft. 3 in. high (without cornice), 7 in. back to front; also twelve show glasses, 16 in. high, 6 in. diameter. Particulars to Briggs, Chemist, Goole.

Sentimental young lady to perfumer: "I don't think you forwarded the scent I meant—it seems entirely different to that I ordered." Perfumer (who is fond of punning): "Madame, I am sure that what you meant I sent: the scent I sent was the scent you meant, consequently we are both of one sentiment."

Femme Pharmacienne.—We translate, from the *Union Medicale*, a paragraph thus headed:—"A lady has just been received as a pharmacienne at Montpelier. This lady, Mlle. Andreine Doumergue, having passed all the examinations required by the College of Pharmacy, has been received with the note "satisfecit."

A New England druggist was lately startled with the following prescription: "Pleas give the bare sumpthin to fizick him 15 cents worth." But pharmacists themselves are not all so far above their customers as they should be. Witness the following application, received by a Nashville druggist. It was written with a pencil on a postal card, and was from a young man in Kentucky:—Sir. beeing informed that you are destitute of a Clerk I. am a druggis & Prac- of 7 years expe- Cann speak german and english Languay I would lik to Have a Positin with your Can give citty refferenc—ad- J. G. W—— P. S. anso 4thwith.

An Amusing Chemical Experiment.—Place five glasses in a row, then pour into the first a solution of potassium, the second a solution of corrosive sublimate, the third a small quantity of iodide of potassium and some oxalate of ammonium, the fourth a solution of chloride of calcium, and the fifth some sulphide of ammonium. Now pour part of the contents of the first glass to the second, and a scarlet colour will be obtained; next pour the second into the third, and the mixture will be colourless; again, pour the third into the fourth, and the contents will be white; finally, pour the fourth into the fifth, and the mass will be a dense black. Then you will have had two glasses colourless, one scarlet, one white, and one black.

TRADE REPORT.

THE anticipations of revived trade to follow the half-yearly stock-taking have been as yet but partially realised. Ac-ording to the best authorities there is fair prospect of a good utumu trade for manufacturers, but it is still, as ever, in the uture.

A decrease of some importance occurred last month in the eclared value of the exports of British merchandise, the total mount having been 21,142,062*l.*, whereas in July last year it as 22,957,404*l.*, being an unfavourable difference of 1,815,342*l.* he diminution in the value of the exportations during the first even months of this year was 9,770,685*l.*, as compared with hat in 1873, and 3,635,858*l.* in 1872, as shown by the following gures :—

	1874.	1873.	1872.
	£	£	£
7 months ended July 31 ..	138,973,276	148,743,961	142,609,134

million or two per month, however, more or less, is but a mall matter in reckoning up the prosperity of the country when laced against a bad or good harvest, as the case may be. This ear there seems every certainty that the harvest is to be an xceptionally abundant one, and that 1874 will be named as ne of the most productive of years. Not in England alone, but n all the countries from which we draw our supplies, the wheat rops especially are reported to be unusually good ; and as it s almost an axiom that trade cannot be bad after a harvest of his character we are in a sense freed from anxiety for he while, and may pass the winter, as the sporting men say, n clover.

Quicksilver again attracts the most prominent attention. At he end of July it was advanced to twenty guineas per bottle, nd in another week a pound more was added. Even at 22*l.* it s obtained with difficulty, and 23*l.* has been paid and will have o be paid. We are informed on good authority that 25*l.* has een fixed as the probable landing stage of this advance ; but whether the progress will be finally arrested at that point epends on the way that Spanish affairs turn. The success of Don Carlos might probably upset the whole arrangement with he Rothschilds and give us quicksilver at its intrinsic value. On the other hand, the continuation of the struggle may neces-sitate so many further advances in price as ultimately to transfer blue pills and other mercurials to the *index expurgatorius* of people of moderate means.

The market for chemicals generally is steady. Foreign orders—not very heavy ones, however—have come to hand of late, but they have been met promptly, indicating that the supply has still the upper hand of the demand. At the same time there is a firmer tone, and forward orders are not taken for the leading staples except at advanced prices.

For home consumption there is a fair business doing, but this is caused chiefly by the urgent necessities of buyers, who will not give out orders until the last moment, such is the uncertainty which prevails as to the future course of the market and the desire to take advantage of any possible reduction in prices.

With the exception of mercurials, which, of course, follow the metal, there is but little material change to be noted. Soda crystals are a shade stronger, and are quoted at 115*s.* now.

Citric acid is strong at 4*s.* 5*d.* to 4*s.* 6*d.* Tartaric quiet but firm at 1*s.* 7¼*d.* to 1*s.* 7½*d.* Oxalic scarce for prompt delivery at 7*d.* Alum steady at 8*l.* 10*s.* for lump, and 8*l.* 15*s.* to 9*l.* for ground. Bleaching powder steady at from 10*l.* 10*s.* to 11*l.*

Quinine remains at 8*s.*, and is firm. Iodine is still quoted at 10¼*d.*, but it is more easily obtained at that figure than last month. Iodide of potassium is now offered for 12*s.* Reports from Calcutta inform us that saltpetre is on the advance, a condition which can hardly be said to have reached the London market yet.

Owing to the speculative disposition of dealers in nitrate of soda having to some extent subsided, the upward movement in this article has been arrested, and prices do not show any advance, but rather a falling-off on last week's quotations. News from Valparaiso states that owing to small quantities only being offered, a small advance has taken place. The production continues to decrease, but its effect on the market is inappreciable, and the Iquique meeting, held for the purpose of considering a suspension of operations for six months, resulted, as anticipated, in entire failure. Sulphate of ammonia is scarce, and 5*s.* to 10*s.* per ton more, according to quality, is being obtained.

The produce markets have been alive, if not active. The demand, generally, has been very satisfactory.

Turkey opium has at last made the advance which we have anticipated. It is probably on the rise. Camphor, which is also a drug of large sale, is also likely to increase in value. The stock is now lower than it has been for years, and some considerable export orders are daily expected. The last quotation for China was 72*s.* 6*d.*, at which price some 350 cases are reported to have been sold privately, in one hand. Holders will not now part for less than 75*s.*

Cardamoms have met with a better demand, and fine pale qualities, having been very scarce, have brought a considerable advance upon last rates.

Castor oil is in fair request, and late terms are realised ; quotations for Coconada, 4¼*d.* to 4⅝*d.* ; Madras, brown quoted at 4*d.* per lb.

The next sales of isinglass are definitely fixed for the 18th inst. Quotations as per last auctions, say for tongue, fine clean pale, 4*s.* 8*d.* ; fair reddish stout to good mixed palish, 3*s.* 10*d.* to 4*s.* 6*d.* ; ordinary to middling, some rather dark, 2*s.* 9*d.* to 3*s.* 6*d.* ; leaf, fine, bold clean pale, 4*s.* 5*d.* to 4*s.* 6*d.* : middling rather dark to fair pale, 2*s.* 8*d.* to 3*s.* 7*d.* ; stout, bold, rather brownish, 4*s.* 4*d.* to 4*s.* 7*d.* ; purse, rather brownish to fair, 1*s.* 2*d.* to 1*s.* 6*d.* per lb.

China rhubarb has experienced a fair demand, and some good trimmed sold well at firm rates ; ordinary, however, rather easier.

At the last auctions, cardamoms, cocculus indicus, musk (pod), and gum elemi sold at steady rates. Castor oil was in smaller supply than of late, and brought previous prices. Oils : Citronelle, cinnamon, cinnamon leaf and nutmeg realised former to full rates, while nux vomica and turmeric were lower.

Shellac has experienced rather less attention, more especially for fine orange, and prices are cheaper ; free second ditto, however, is still scarce, whilst resinous kinds are very difficult of disposal. The auctions have comprised 755 chests, which partly sold ; good native orange, 13*l.* 2*s.* 6*d.* ; superior lemony ditto at 13*l.* 15*s.* to 14*l.* ; good garnet, slightly cakey, 10*l.* 15*s.* to 10*l.* 17*s.* 6*d.* ; resinous liver, out of condition, at 6*l.* 7*s.* 6*d.* to 6*l.* 12*s.* 6*d.* ; button kinds, good blood, 12*l.* 10*s.* to 12*l.* 12*s.* 6*d.* ; Privately, about 400 cases orange sold at 14*l.* 15*s.* per cwt.

The following is reported from Calcutta in respect to indigo : With the exception of some mild complaints of having had a little too much rain, the accounts from nearly all the districts of Bengal continue favourable. From Tirhoot and adjoining districts the improved accounts are confirmed, and although the continued rain has been hurtful to the late sowings the prospects are now very much better than there seemed any probability of hope for a month ago. In the North-West and central provinces a cessation of the heavy rains they are having there is wanted, but up to date the growing plant has not suffered much injury.

The remarkably low prices of olive oils seem to have tempted speculators, and consequently we have to report a considerable rise, averaging about 2*l.* per ton. Quotations are still moderate, but there seems every reason to anticipate an abundant supply this year from Italy, and, therefore, unless the crops should be injured at the eleventh hour, there is little chance of high prices for the winter. It is doubtful, indeed, whether the present rates will be maintained. Rape oil has fallen considerably, and linseed is also lower. Turpentine, which has been down to 21*s.* 6*d.*, seems to have touched its lowest point, and is now firmer. Petroleum has fluctuated somewhat, and refined can now be bought at 9½*d.* per gallon. As low as 8¾*d.* has been taken for prompt delivery, and 550 barrels have been sold for September-January at 9⅛*d*

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.	1874. s.	d.		s.	d.	1873. s.	d.		s.	d.
ACIDS—										
Acetic ....per lb.	0	4	to	0	4½	0	4	to	0	0
Citric .... ,,	4	5	..	4	6	4	2	..	0	3
Hydrochlor......per cwt.	5	0	..	7	0	4	0	..	7	0
Nitric ....per lb.	0	5	..	0	5½	0	5	..	0	5½
Oxalic .... ,,	0	6¾	..	0	7	0	8	..	0	0
Sulphuric ...... ,,	0	0¾	..	0	1	0	0¾	..	0	1
Tartaric crystal.. ,,	1	7½	..	0	0	1	7¼	..	1	7½
powdered ,,	1	7½	..	0	0	1	7½	..	0	0
ANTIMONY ore ......per ton	200	0	..	240	0	220	0	..	240	0
crude .. per cwt.	0	0	..	0	0	0	0	..	0	0
regulus .. ,,	0	0	..	0	0	0	0	..	0	0
star...... ,,	47	0	..	48	0	57	0	..	60	0
ARSENIC, lump ...... ,,	20	6	..	0	0	20	0	..	20	6
powder.... ,,	10	0	..	0	0	10	0	..	0	0
BRIMSTONE, rough ...per ton	127	6	..	145	0	127	6	..	145	0
roll .. per cwt.	9	9	..	10	0	9	9	..	10	0
flour.... ,,	11	6	..	12	6	11	6	..	12	6
IODINE, dry ....per oz.	0	10	..	0	10½	1	5¼	..	1	6
IVORY BLACK, dry .. per cwt.	8	6	..	0	0	8	6	..	0	0
MAGNESIA, calcined..per lb.	1	6	..	0	0	1	6	..	0	0
MERCURY ....per bottle	440	0	..	460	0	300	0	..	0	0
MINIUM, red ...... per cwt.	25	0	..	25	3	25	3	..	25	6
orange .. ,,	37	0	..	0	0	35	6	..	0	0
PRECIPITATE, red . per lb.	6	9	..	0	0	4	11	..	0	0
white ,,	6	8	..	0	0	4	8	..	0	0
PRUSSIAN BLUE .. ,,	0	0	..	0	0	0	0	..	0	0
SALTS—										
Alum ....per ton	170	0	..	175	0	167	6	..	165	0
powder...... ,,	190	0	..	0	0	187	6	..	0	0
Ammonia :										
Carbonate ...... per lb.	0	7	..	0	7¼	0	7½	..	0	7¾
Hydrochlorate, crude, white .... per ton	650	0	..	0	0	650	0	..	0	0
British (*see* Sal Am.)										
Sulphate........ per ton	340	0	..	345	0	355	0	..	360	0
Argol, Cape ......per cwt.	87	0	..	95	6	87	0	..	96	6
Red........ ,,	75	0	..	82	0	75	0	..	86	0
Oporto, red. ,,	28	0	..	32	0	32	0	..	32	6
Sicily ...... ,,	52	6	..	57	6	60	0	..	65	0
Ashes (*see* Potash and Soda)										
Bleaching powd...per cwt.	11	9	..	12	0	12	0	..	12	3
Borax, crude...... ,,	40	0	..	66	0	50	0	..	90	0
British refnd. ,,	70	0	..	0	0	102	6	..	90	0
Calomel ....per lb.	6	3	..	0	0	4	6	..	0	0
Copper :										
Sulphate ....per cwt.	26	0	..	27	0	30	6	..	31	0
Copperas, green..per ton	65	0	..	70	0	60	0	..	62	6
Corrosive Sublimate p. lb.	5	5	..	0	0	3	9	..	0	0
Cr. Tartar, French, p. cwt.	112	0	..	0	0	110	0	..	112	6
brown ,,	97	0	..	100	0	98	6	..	100	0
Epsom Salts ....per cwt.	5	9	..	6	6	5	9	..	6	3
Glauber Salts .... ,,	4	6	..	5	9	4	6	..	5	6
Lime :										
Acetate, white, per cwt.	14	0	..	21	0	14	6	..	21	0
Magnesia : Carbonate ,,	42	6	..	45	0	42	6	..	45	0
Potash :										
Bichromate ....per lb.	0	6½	..	0	0	0	8½	..	0	0
Carbonate :										
Potashes, Canada, 1st sort ......per cwt.	35	0	..	35	6	35	9	..	36	0
Pearlashes, Canada, 1st sort ......per cwt.	0	0	..	0	0	49	0	..	0	0
Chlorate ......per lb.	0	10½	..	0	10¾	1	3	..	1	3½
Prussiate .... ,,	0	11½	..	0	11¾	1	4	..	0	0
red .... ,,	2	10	..	2	11	3	1	..	0	0
Tartrate (*see* Argol and Cream of Tartar)										
Potassium :										
Chloride......per cwt.	7	0	..	0	0	8	6	..	9	0
Iodide ....per lb.	12	0	..	0	0	22	0	..	0	0
Quinine :										
Sulphate, British, in bottles ......per oz.	8	0	..	0	0	8	6	..	0	0
Sulphate, French ,,	7	10	..	0	0	8	3	..	0	0
Sal Acetos ......per lb.	0	10	..	0	10½	1	0	..	0	0
Sal Ammoniac, Brit. cwt.	44	0	..	45	0	44	0	..	45	0
Saltpetre :										
Bengal, 6 per cent. or under ......per cwt.	20	6	..	22	0	25	3	..	26	0
Bengal, over 6 per cent. per cwt.	18	6	..	20	6	22	6	..	25	0
British, refined ,,	25	6	..	26	6	29	0	..	30	0
Soda : Bicarbonate, p. cwt.	15	9	..	0	0	18	0	..	0	0
Carbonate :										
Soda Ash ..per deg.	0	2¼	..	0	0	0	2¾	..	0	0
Soda Crystals per ton	115	0	..	0	0	130	0	..	0	0
Hyposulphite, per cwt.	0	0	..	0	0	15	6	..	16	0
Nitrate ......per cwt.	11	3	..	11	9	15	0	..	15	3
SUGAR OF LEAD, White cwt.	47	0	..	48	0	48	0	..	0	0
SUGAR OF LEAD, Brown, cwt.	32	6	..	33	0	32	6	..	33	0
SULPHUR (*see* Brimstone)										

	1874. s.	d.		s.	d.	1873. s.	d.		s.
VERDIGRIS .... per lb.	1	1½	to	1	6	1	1½	to	1
VERMILION, English ,,	5	10	..	0	0	4	6	..	4
China ,,	5	6	..	0	0	4	3	..	4
DRUGS.									
ALOES, Hepatic ....per cwt.	80	0	..	200	0	80	0	..	200
Socotrine .. ,,	102	6	..	240	0	110	0	..	320
Cape, good.. ,,	38	0	..	40	0	30	0	..	34
Inferior .... ,,	30	0	..	37	0	16	0	..	28
Barbadoes .. ,,	65	0	..	180	0	80	0	..	200
AMBERGRIS, grey........oz.	0	0	..	0	0	27	0	..	36
BALSAM—									
Canada............per lb.	2	3	..	0	0	3	6	..	4
Capivi .... ,,	2	8	..	2	9	2	10	..	3
Peru .... ,,	8	0	..	8	1	9	0	..	9
Tolu.............. ,,	2	9	..	3	0	1	10	..	2
BARKS—									
Canella alba......per cwt.	16	0	..	27	0	15	0	..	25
Cascarilla .... ,,	18	6	..	31	0	30	0	..	35
Peru, crown & grey per lb.	0	10	..	2	7	1	0	..	2
Calisaya, flat ,,	2	10	..	4	4	3	0	..	3
,, quill ,,	2	9	..	4	5	3	3	..	5
Carthagena ,,	0	8	..	2	0	0	10	..	1
E. I. .... ,,	0	7	..	5	0	0	4	..	4
Pitayo ...... ,,	0	4	..	2	0	0	6	..	2
Red .... ,,	1	3	..	3	10	1	10	..	6
Buchu Leaves........ ,,	0	2	..	1	0	0	1½	..	0
CAMPHOR, China ..per cwt.	70	0	..	72	6	75	0	..	0
Japan .. ,,	72	6	..	75	0	82	6	..	0
Refin. Eng. per lb.	1	1	..	0	0	1	6	..	0
CANTHARIDES........ ,,	2	3	..	5	0	6	0	..	6
CHAMOMILE FLOWERS p. cwt.	50	0	..	81	0	45	0	..	80
CASTOREUM ....per lb.	4	0	..	20	0	6	0	..	20
DRAGON'S BLOOD, lp. p. cwt.	105	0	..	245	0	105	0	..	240
FRUITS AND SEEDS (*see also* Seeds *and* Spices).									
Anise, China Star per cwt.	130	0	..	140	0	125	0	..	140
Spanish, &c. ,,	12	0	..	27	0	20	0	..	42
Beans, Tonquin....per lb.	1	6	..	2	4	3	7	..	3
Cardamoms, Malabar good .... ,,	4	3	..	4	10	4	6	..	5
inferior.... ,,	2	0	..	4	0	3	3	..	4
Madras.... ,,	2	0	..	3	9	2	2	..	4
Ceylon .... ,,	4	0	..	4	6	4	3	..	4
Cassia Fistula....per cwt.	20	0	..	21	6	10	0	..	20
Castor Seeds .... ,,	5	0	..	10	0	5	0	..	10
Cocculus Indicus ,,	14	0	..	17	0	13	0	..	20
Colocynth, apple ..per lb.	0	4	..	0	10	0	4	..	0
Croton Seeds ....per cwt.	42	0	..	44	0	45	0	..	54
Cubebs.......... ,,	24	0	..	25	0	25	0	..	26
Cummin .... ,,	15	0	..	22	0	18	0	..	29
Dividivi .... ,,	11	0	..	15	0	11	0	..	15
Fenugreek ...... ,,	8	0	..	16	0	9	0	..	25
Guinea Grains .. ,,	25	0	..	26	0	25	6	..	26
Juniper Berries ,,	9	0	..	10	6	9	0	..	10
Nux Vomica.. .. ,,	9	0	..	15	0	10	0	..	17
Tamarinds, East India ,,	10	0	..	13	0	5	0	..	20
West India, new ,,	11	0	..	17	0	15	0	..	30
Vanilla, large .... per lb.	68	0	..	86	0	70	0	..	80
inferior ,,	45	0	..	67	0	35	0	..	67
Wormseed per cwt.	0	0	..	0	0	0	0	..	0
GINGER, Preserved, per lb.	0	5½	..	0	8	0	6	..	0
HONEY Chili .... per cwt.	32	0	..	46	0	34	0	..	41
Jamaica ,,	33	0	..	45	0	25	0	..	40
Australian ,,	38	0	..	48	0	22	0	..	40
IPECACUANHA .... per lb.	3	3	..	3	6	3	6	..	4
ISINGLASS, Brazil.. ,,	2	10	..	5	4	2	9	..	4
Tongue sort ,,	3	2	..	5	5	3	2	..	5
East India ,,	1	3	..	4	8	1	9	..	4
West India ,,	4	9	..	5	1	4	3	..	4
Russ. long staple	8	6	..	13	0	8	0	..	12
,, inferior	4	0	..	8	0	3	6	..	7
,, Simovia	3	3	..	5	0	2	6	..	4
JALAP, good...... ,,	0	8	..	0	8¾	1	6	..	2
infer. & stems ,,	0	6	..	0	7¾	1	0	..	1
LEMON JUICE .... per degree	0	2¾	..	0	0	0	2¾	..	0
LIME JUICE........per gall.	2	10	..	2	11	2	0	..	2
LIQUORICE, Spanish per cwt.	40	0	..	70	0	50	0	..	90
Liquorice Root ,,	11	0	..	16	0	10	6	..	15
MANNA, flaky ......per lb.	2	6	..	3	0	2	6	..	3
small ...... ,,	1	2	..	1	5	1	4	..	1
MUSK, Pod..........per oz.	20	0	..	41	0	20	0	..	40
Grain........ ,,	42	6	..	55	0	53	0	..	58
OILS (*see also separate list*)									
Almond, expressed per lb.	0	11	..	0	0	1	0	..	0
Castor, 1st pale.... ,,	0	4¾	..	0	5¾	0	5¾	..	0
second .... ,,	0	4¾	..	0	4⅞	0	5	..	0
infer. & dark ,,	0	4	..	0	4¼	0	4¾	..	0
Bombay (in casks)	0	4¾	..	0	0	0	4¾	..	0
Cod Liver ...... per gall.	3	10	..	6	3	4	6	..	6
Croton .... per oz.	0	3	..	0	4	0	3	..	0
Essential Oils :									
Almond ....per lb.	25	0	..	26	0	30	0	..	0
Anise-seed ...... ,,	8	6	..	0	0	10	3	..	0
Bay ....per cwt.	0	0	..	0	0	65	0	..	70
Bergamot ...... per lb.	10	0	..	23	0	9	0	..	18
Cajeput, (in bond) per oz.	2	3	..	2	5	2	4	..	2
Caraway........per lb.	5	3	..	6	0	5	6	..	6
Cassia .... ,,	4	6	..	4	8	5	11	..	6
Cinnamon ......per oz.	0	8	..	7	6	1	0	..	5
Cinnamon-leaf .. ,,	0	2¼	..	0	2¾	0	2	..	0
Citronello ...... ,,	0	1¾	..	0	0	0	1¾	..	0
Clove ....per lb.	9	6	..	0	0	5	3	..	5
Juniper .... ,,	1	10	..	2	0	1	3	..	2
Lavender ......per lb.	1	10	..	5	0	1	10	..	5
Lemon .... ,,	7	0	..	14	0	8	6	..	15

	1874.			1873.		
Essential Oils, *continued*:—	s. d.		s. d.	s. d.		s. d.
Lemongrass ....per oz.	0 2½	..	0 2¾	0 3	..	0 0
Neroli .... ,,	0 4	..	0 6	0 5	..	0 6
Nutmeg .... ,,	0 7¾	..	0 8	0 8	..	0 8½
Orange..........per lb.	8 0	..	10 0	8 0	..	11 0
Otto of Roses....per oz.	15 0	..	22 0	15 0	..	0 0
Patchouli ...... ,,	2 9	..	4 0	3 9	..	4 0
Peppermint :						
American ....per lb.	20 6	..	21 6	15 0	..	15 6
English ...... ,,	29 0	..	32 0	29 0	..	34 0
Rosemary ...... ,,	1 4	..	1 10	1 4	..	1 10
Sassafras ...... ,,	2 0	..	3 0	2 6	..	3 8
Spearmint ...... ,,	6 0	..	18 0	6 0	..	19 0
Thyme.......... ,,	1 9	..	2 0	1 10	..	0 0
Mace, expressed ..per oz.	0 3	..	0 3½	0 2	..	0 3
OPIUM, Turkey ......per lb.	33 0	..	36 0	24 0	..	27 0
inferior ...... ,,	14 0	..	29 0	12 0	..	20 0
QUASSIA (bitter wood) per ton	70 0	..	85 0	70 0	..	90 0
RHUBARB, China, good and fine ....per lb.	4 6	..	5 6	2 9	..	5 9
Good, mid. to ord. ,,	0 11	..	4 4	0 10	..	2 8
Dutch trimmed ,,	0 0	..	0 0	8 0	..	10 0
Russian .... ,,	0 0	..	0 0	0 0	..	0 0
ROOTS—Calumba..per cwt.	12 0	..	16 0	10 0	..	18 0
China .... ,,	18 0	..	20 0	16 0	..	18 0
Galangal.......... ,,	20 0	..	25 0	18 0	..	29 0
Gentian .... ,,	17 0	..	19 0	18 0	..	19 0
Hellebore .... ,,	30 0	..	33 0	30 0	..	33 0
Orris .... ,,	30 0	..	70 0	36 0	..	80 0
Pellitory.......... ,,	38 0	..	39 0	38 0	..	39 0
Pink ....per lb.	1 0	..	1 3	0 10	..	1 0
Rhatany.......... ,,	0 5	..	0 11	0 5	..	1 4
Senega............ ,,	3 0	..	3 6	4 6	..	5 0
Snake .... ,,	1 4	..	1 9	1 2	..	1 3
SAFFRON, Spanish .. ,,	22 0	..	26 0	20 0	..	25 0
SALEP ....per cwt.	170 0	..	200 0	170 0	..	180 0
SARSAPARILLA, Lima per lb.	0 6	..	0 9	0 6	..	0 7
Para.............. ,,	1 0	..	1 3	1 3	..	0 0
Honduras .... ,,	1 3	..	1 7	1 1	..	1 8
Jamaica .... ,,	1 6	..	2 4	1 11	..	2 4
SASSAFRAS ....per cwt.	13 0	..	15 0	0 0	..	0 0
SCAMMONY, Virgin ..per lb.	25 0	..	30 0	26 0	..	31 0
second & ordinary ,,	8 0	..	24 0	14 0	..	25 6
SENNA, Bombay .... ,,	0 1	..	0 5	0 2	..	0 5
Tinnivelly .... ,,	0 1¼	..	1 0	0 2¾	..	1 6
Alexandria........ ,,	0 3¼	..	1 5	0 4	..	1 10
SPERMACETI, refined ,,	1 3	..	1 4	1 6	..	0 0
American .... ,,	1 0	..	1 1	1 2	..	1 3
SQUILLS .... ,,	0 1¾	..	0 3¾	0 1½	..	0 3

GUMS.

	1874.			1873.		
	£ s.		£ s.	£ s.		£ s.
AMMONIACI drop .. per cwt.	4 15	..	6 17/6	4 0	..	6 10
lump.. ,,	3 0	..	4 10	2 10	..	4 0
ANIMI, fine washed ,,	11 0	..	12 0	11 0	..	13 10
bold scraped ,,	10 0	..	11 0	9 0	..	11 0
sorts ...... ,,	6 0	..	9 10	5 0	..	10 0
dark ...... ,,	5 0	..	5 15	4 0	..	4 15
ARABIC, E.I., fine pale picked .. ,,	3 0	..	3 12	3 0	..	3 10
srts..md.tofin. ,,	1 17	..	2 18	2 10	..	3 0
garblings .. ,,	1 2	..	1 10	1 0	..	3 0
TURKEY,pick.gd.to fin. ,,	7 10	..	11 0	7 10	..	11 0
second & inf. ,,	4 0	..	7 5	4 0	..	6 10
in sorts .. ,,	2 5	..	3 15	2 0	..	3 10
Gedda .... ,,	1 0	..	1 12/6	1 0	..	2 0
BARBARY, white .. ,,	1 6	..	2 3	2 10	..	2 17
brown .. ,,	1 5	..	1 16	1 10	..	2 0
AUSTRALIAN...... ,,	1 15	..	2 8	1 7	..	2 5
ASSAFŒTIDA,cm.to fin. ,,	1 7	..	2 16	1 3	..	3 0
BENJAMIN,1st & 2nd ,,	12 0	..	27 0	8 10	..	24 0
Sumatra 1st & 2nd ,,	7 0	..	10 0	7 10	..	10 10
3rd ,,	3 5	..	4 5	3 10	..	4 5
COPAL, Angola red ,,	5 10	..	5 15	6 0	..	6 15
Benguela ,,	3 10	..	3 12/6	5 10	..	5 15
	s. d.		s. d.	s. d.		s. d.
Sierra Leone, per lb.	0 4½	..	0 10½	0 3	..	0 9½
Manilla....per cwt.	9 0	..	19 0	13 0	..	28 0
DAMMAR, pale .... ,,	40 0	..	50 0	47 0	..	50 0
Singapore .... ,,	40 6	..	50 0	43 0	..	48 0
EUPHORBIUM .... ,,	11 0	..	15 0	11 0	..	15 0
GALBANUM .... per lb.	1 6	..	2 0	1 6	..	2 0
GAMBOGE,pckd.pipe per cwt.	180 0	..	280 0	220 0	..	300 0
GUAIACUM ....per lb.	1 0	..	2 5	0 8	..	2 6
KINO..............per cwt.	50 0	..	90 0	50 0	..	85 0
KOWRIE, rough .. ,,	23 0	..	34 0	12 0	..	26 6
scraped sorts ,,	34 6	..	50 0	30 0	..	39 0
MASTIC, picked ....per lb.	4 6	..	6 0	6 0	..	7 0
MYRRH, gd. & fine per cwt.	119 0	..	280 0	120 0	..	240 0
ord. to fair.... ,,	80 0	..	115 0	40 0	..	110 0
OLIBANUM, p. drop ,,	62 0	..	68 0	70 0	..	77 0
amber & ylw. ,,	54 0	..	61 0	60 0	..	70 0
garblings.... ,,	23 0	..	39 0	20 0	..	40 0
SENEGAL .... ,,	2 15	..	3 3	3 5	..	3 10
SANDARAC........ ,,	85 0	..	100 0	50 0	..	95 0
SHELLAC, Orange.. ,,	265 0	..	300 0	192 0	..	202 6
Liver .. ,,	250 0	..	280 0	185 0	..	190 0
THUS .... ,,	23 0	..	24 0	20 0	..	35 0
TRAGACANTH, leaf ,,	240 0	..	360 0	270 0	..	440 0
in sorts ,,	30 0	..	170 0	60 0	..	160 0

OILS.

	1874.			1873.		
	£ s.		£ s.	£ s.		£ s.
AL, pale ....per tun	36 0	..	36 10	34 0	..	0 0
yellow to tinged ,,	32 0	..	35 10	32 0	..	33 0
brown ...... ,,	29 0	..	30 0	30 0	..	31 0
SPERM............ ,,	98 0	..	0 0	0 0	..	0 0
COD .... ,,	39 10	..	0 0	37 0	..	0 0
Oils, *continued*:—	£ s.		£ s.	£ s.		£ s.
WHALE,SouthSea,pale,per tun	29 0	to	31 0	34 0	to	0 0
yellow ,,	28 0	..	0 0	32 0	..	33 0
brown ,,	25 0	..	26 0	30 0	..	31 0
East India, Fish ,,	25 0	..	0 0	26 0	..	27 0
OLIVE, Galipoli ...per ton	47 0	..	0 0	44 0	..	0 0
Trieste...... ,,	46 0	..	0 0	42 0	..	0 0
Levant .... ,,	41 0	..	0 0	39 0	..	40 0
Mogador .... ,,	40 0	..	41 0	38 0	..	38 0
Spanish .... ,,	44 0	..	45 0	41 0	..	0 0
Sicily ...... ,,	43 0	..	0 0	41 0	..	0 0
COCOANUT, Cochin.. ,,	41 0	..	0 0	38 0	..	38 10
Ceylon ,,	34 0	..	35 0	32 0	..	32 10
Sydney ,,	29 0	..	35 10	28 0	..	32 0
GROUND NUT AND GINGELLY :						
Bombay	0 0	..	0 0	0 0	..	0 0
Madras	35 0	..	36 0	36 10	..	0 0
PALM, fine................	36 0	..	37 0	37 0	..	0 0
LINSEED	27 15	..	0 0	33 5	..	33 10
RAPESEED, English, pale ..	30 10	..	0 0	36 0	..	0 0
brown	28 10	..	0 0	34 0	..	0 0
Foreign, pale ..	0 0	..	0 0	38 0	..	0 0
brown	0 0	..	0 0	0 0	..	0 0
COTTONSEED	26 0	..	26 5	28 10	..	29 0
LARD	52 0	..	56 0	42 0	..	0 0
TALLOW	20 0	..	30 0	29 0	..	0 0
TURPENTINE, American,cks.	25 6	..	0 0	30 6	..	0 0
French ,,	0 0	..	0 0	0 0	..	0 0
PETROLEUM, Crude	0 0	..	0 0	0 0	..	0 0
	s. d.		s. d.	s. d.		s. d.
refined, per gall.	0 9½	..	0 0	1 1¾	..	0 0
Spirit ,,	0 9	..	0 0	0 8½	..	0 9

SEEDS.

	1874.			1873.		
CANARY............per qr.	88 0	..	90 0	46 0	..	54 0
CARAWAY, English per cwt.	0 0	..	0 0	38 0	..	42 0
German, &c....	0 0	..	0 0	70 0	..	94 0
CORIANDER	10 0	..	13 0	13 0	..	19 0
HEMP.............per qr.	40 0	..	42 0	40 0	..	44 0
LINSEED, English per qr. ..	59 0	..	66 0	58 0	..	68 0
Black Sea & Azof	55 0	..	56 0	58 0	..	60 0
Calcutta ,,	58 0	..	0 0	61 0	..	62 0
Bombay ,,	59 0	..	0 0	62 9	..	63 0
St. Petrsbrg. ,,	54 0	..	55 0	55 0	..	57 0
Mustard, brown..per bshl.	10 0	..	15 0	13 0	..	16 0
white.. ,,	8 0	..	11 0	8 0	..	9 0
POPPY, East India, per qr.	57 0	..	0 0	60 0	..	60 6

SPICES.

	1874.			1873.		
CASSIA LIGNEA ..per cwt.	56 0	..	65 0	75 0	..	80 0
Vera .... ,,	24 0	..	60 0	27 0	..	60 0
Buds .... ,,	112 6	..	117 6	117 6	..	120 0
CINNAMON, Ceylon :						
1st quality ......per lb.	2 4	..	4 0	1 8	..	3 6
2nd do. .... ,,	1 9	..	3 5	1 6	..	3 0
3rd do. .... ,,	1 3	..	3 0	1 2	..	2 9
Tellicherry ...... ,,	3 3	..	3 5	2 7	..	3 0
CLOVES, Penang .... ,,	2 0	..	2 1	1 0	..	1 2
Amboyna .... ,,	1 4	..	1 4½	0 7½	..	0 11
Zanzibar.......... ,,	1 4½	..	1 5	0 8	..	0 9
GINGER, Jam., fine per cwt.	105 0	..	200 0	100 0	..	250 0
Ord. to good .... ,,	66 0	..	100 0	62 0	..	98 0
African .... ,,	50 6	..	52 6	51 0	...	0 0
Bengal............ ,,	42 0	..	55 0	50 0	..	0 0
Malabar .... ,,	49 0	..	51 0	50 0	..	0 0
Cochin .... ,,	72 0	..	110 0	60 0	..	120 0
PEPPER,Blk,Malabar,per lb.	0 7⅜	..	0 7½	0 7⅝	..	0 8
Singapore .... ,,	0 7⅛	..	0 0	0 7⅛	..	0 0
White Tellicherry ,,	1 4	..	1 10	2 0	..	0 0
Cayenne .... ,,	1 6	..	2 2	1 0	..	2 0
MACE, 1st quality .. ,,	3 2	..	3 8	3 5	..	4 0
2nd and inferior .. ,,	2 0	..	3 1	2 10	..	3 4
NUTMEGS, 78 to 60 to lb.	3 6	..	4 7	3 2	..	4 5
90 to 80 ,,	3 4	..	3 6	3 0	..	3 1
132 to 95 ,,	2 11	..	3 3	2 7	..	2 11
PIMENTA	0 3	..	0 3⅕	0 2¾	..	0 0

VARIOUS PRODUCTS.

	1874.			1873.		
COCHINEAL—						
Honduras, black ..per lb.	1 11	..	2 10	2 3	..	3 4
,, silver .. ,,	2 0	..	2 4	2 4	..	2 7
,, pasty .. ,,	1 9	..	1 11	2 1	..	2 3
Mexican, black .... ,,	1 8	..	2 1	2 3	..	2 5
,, silver.... ,,	1 8	..	1 9	2 1	..	2 2
Teneriffe, black .. ,,	2 0	..	3 8	2 3	..	3 9
,, silver .. ,,	1 11	..	2 2	2 2	..	2 5
SOAP, Castile......per cwt.	33 0	..	34 0	33 0	..	34 0
SPONGE,Turk.fin.pkd pr lb.	12 0	..	16 0	12 0	..	16 0
Fair to good ,,	4 0	..	11 0	4 0	..	11 0
Ordinary .. ,,	1 0	..	3 6	1 0	..	3 6
Bahama .... ,,	0 6	..	3 6	0 6	..	3 6
TERRA JAPONICA—						
Gambier ......per cwt.	25 3	..	25 6	26 6	..	27 0
Free cubes .... ,,	35 0	..	42 0	35 0	..	36 0
Cutch .... ,,	22 6	..	23 0	21 0	..	23 0
WOOD, DYE, Bar ..per ton	£5 0	..	£6 0	£3 10	..	£4 0
Brazil, Branch .... ,,	18 0	..	27 0	27 0	..	30 0
,, Logs ...... ,,	9 0	..	16 0	9 0	..	16 0
Cam.............. ,,	22 0	..	30 0	12 0	..	25 0
Fustic, Cuba ...... ,,	8 10	..	9 0	8 10	..	9 10
Jamaica .... ,,	6 0	..	7 0	5 5	..	6 5
LOGWOOD,Campeachy ,,	9 5	..	9 10	8 10	..	9 0
Honduras ...... ,,	6 15	..	6 17/6	6 15	..	7 0
St. Domingo .... ,,	5 2/6	..	5 10	5 5	..	5 15
Jamaica .... ,,	5 2/6	..	5 7/6	4 10	..	5 0
LIMA, first pile .... ,,	12 0	..	14 0	10 0	..	11 10
RED SANDERS .... ,,	6 7/6	..	6 15	5 17/6	..	6 0

NOTES AND QUERIES

Mr. Wentworth L. Scott, of Wolverhampton, has sent us a circular addressed generally to analysts, in which he proposes the formation of an Association of Analysts, with the apparent object of strengthening their position in view of any approaching legislation affecting their interests. "I feel convinced," says Mr. Scott, "that you will agree with me in believing that no chemist worthy of his cloth would submit to 'examination' by any authority at present in existence at Somerset House or South Kensington, and that it is essential that the diploma or certificate of qualification shall emanate from the Council of the 'Society of British Analysts,' or, in other words, from those of our own body, who have—what neither of the above departments do possess—the requisite knowledge and experience." Recent experience of individual analysts would hardly lead us to hope for much increase to our comforts from an association of them, if such a society should ever gain any power. The Egyptians were spared this last plague among their experiences.

A. P. S.—Barbadoes aloes is the inspissated juice of the *Aloe vulgaris*, socotrine aloes of the *Aloe socotrina*. The former kind is allowed to solidify spontaneously; the latter is inspissated with the aid of artificial heat.

Rusticus.—If you wish to bleach the sponges the best method is to thoroughly remove the sand by shaking, wash them in hot water, and press as dry as possible. Then place in a bath of dilute hydrochloric acid for half an hour; remove from bath, and, after washing well in hot water, place in a bath of fresh acid, to which has been added six per cent. of hyposulphite of soda, and allow it to remain for twenty-four hours. The sponge is then finished by washing and drying.

Rubrum.—We can recommend you the following as a good red ink:—

Carminæ ℈i.
Liq. Ammon. Fort. ʒ ss.
Gum Acaciæ ℈i.
Aquæ Destill. ℥iij.

Mix.

R. V.—Tincture of myrrh and borax:—

℞ Gum Myrrhæ ʒij.
Rad. Krameriæ ʒ ss.
Spt. Vini Rect. ℥xxiv.

Let it stand 14 days, then strain and add:—

Sodæ Bibor. ʒiij.
Aquæ Ferventis ℥vj.
Glycerin. ℥xij.
Perfume—q.s.

Dispenser.—You will find the following form good sulphur pills:—

℞ Sulphur:
Potass. Acetatis āā gr. xxiv.
Conf. Rosæ q. s. for 12 pills.

Mix.

P. R. S.—In order to prevent your parcels of drugs, &c., getting damp we should advise you to place in the drawers or lockers where they are kept small trays of quicklime, provided with perforated lids. The moisture in the receptacle is thus entirely absorbed. The lime, of course, must be occasionally renewed.

Mr. G. Fox.—If the Pharmaceutical Council has promised to take proceedings, we think you may depend on the fulfilment of their promise. Like Sir Roger, "they slow, but they mighty sure." If you can prove having suffered injury from the "dangerous quack" you write about, you have a basis for an action for damages. It would be for the judge to decide whether his error amounted to culpable negligence. But we would not advise you to tempt the glorious uncertainty of the law.

C. F. R.—If A. purchases B.'s business can A. use the name of A. and B., chemists and druggists, provided that B. sanctions this use of his name, A. not having passed his examinations? B. may still continue to be the nominal proprietor of the business, though he may live a thousand miles away; but he, B., is responsible in case of any error arising. The name of A. appearing either as partner or proprietor would render him, A., liable to prosecution.

F. F. P. (Janesville, Wis., U.S.).—Several of the portraits we have published have been from photographs taken by Maull & Co., Cheapside, London. Messrs. Churchill & Co., New Burlington Street, London, will supply you with the books you want.

Subscriber Five Years.—You will have to pass the preliminary and the minor examinations of the Pharmaceutical Society before you can be registered. Write to the Registrar, 17 Bloomsbury Square, for particulars.

Pil. Rhei Co.—

Inf. Gentianæ Co. Conc.
Rad. Gentianæ.
Cort. Aurant. Sicc. āā lb. ivss.
Cort. Limonis Recentis. lb. ix.
Aq. Dest. Ciij. Oij.
S. V. R., Ci.

Macerate the above for a fortnight, then press. Add 1 dr. each of the essential oils of orange and lemon, and filter through paper.

Inf. Rhei Conc.
Rad. Rhei, ℥x.
S. V. R. Cj.
Aq. Dest. Cij.

Made either by maceration or percolation.

Nemo.—Furniture Cream that will flow like cream, not a stiff paste:—

Pearlash, 2 ozs.
Soft Soap, 4 ozs.
Bees' Wax, 1 lb.
Water, 1 gallon.

Boil until the whole is united, and forms a creamy liquid when cold. If too thick, use less wax.

Glycerine Jelly is usually cold cream tinted with a little rose oil, and wit some glycerine incorporated while it is warm. A more distinctive preparation is produced as follows:—

Transparent Soap, 1 oz.
Water, 4 ozs.
Glycerine, 24 ozs.
(All by weight.)

Dissolve the soap in the water by heat, adding an equal quantity of glycerine. When dissolved, and while still hot, add the remainder of the glycerine When nearly cold, perfume according to choice, and pour into glass jar This is a transparent jelly of a pale amber colour.

Mr. E. Worth, chemist, Bournemouth, would be obliged to any brothe chemist who would give him the present address of a Mrs. L'Amy, or Mr Sylvester L'Amy.

Rhacados.—We have received the following formula from a private sourc as "a good ointment for sore nipples":—

Beef Marrow, strained, ½ lb.
Spermaceti, ½ lb.
Ol. Amygd. 5 ozs.
Rad. Anchusæ, q.s.

While cooling incorporate f℥ij. Bals. Peruv. and mxx. of otto of roses.

J. H. D.—A cheap Brunswick Black is thus made:—Black pitch and g tar asphaltum, of each 25 lbs., boil gently for five hours, then add linsee oil, 8 gallons; litharge and red lead, of each, 10 lbs.; boil as before, an thin with oil of turpentine, 20 gallons.

W. H.—To become an F.C.S. you must be proposed and seconded Fellows, and elected by a general meeting. One is supposed to have earn the title by some respectable chemical exploit. We announce what you a to do, if you wish to enter the competition, every time we publish o "Corner for Students."

J. G.—The Juries Bill has been withdrawn.

Juvenile.—The meaning of the motto on the Pharmaceutical Arms "having a regard to health."

J. C. N.—Nux vomica is not a preparation of strychnine, and, therefor neither it nor its compounds come within the definition of the Pharma Act.

Alpha.—It is usual to register the sale of vermin powders, regarding the as coming under the definition of "preparations of strychnine;" poisono compounds "for the destruction of vermin" are also to be deemed poison but merely as such they do not come into the first part of the schedule.

H. N. H.—Your question does not admit of a reply which could be of n use to you. Read Professor Foster's "Physiology," published as No. 6 Macmillan's Science Primers, price 1*s*.

G. W. B. wants to know of a little book on Chemical Notations, with k or explanations.

Scribe.—Some little time back we innocently enough reproduced from foreign source what was said to be a formula for Lea and Perrin's Worce tershire Sauce. The proprietors of that commodity thereupon "persuade us, not only to retract what we had published, but also to pay for a certa quantity of advertisements. This must be our apology for declining to gi information in this column respecting proprietary articles.